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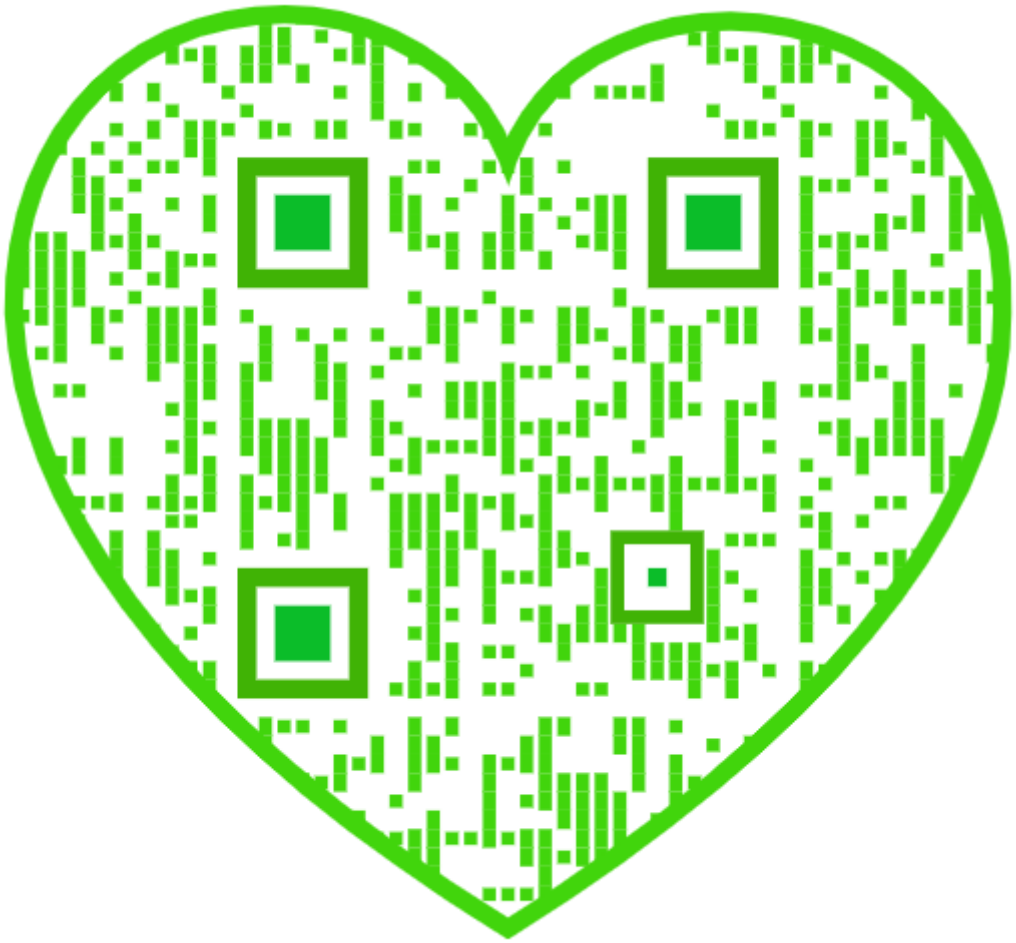

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AND

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

A RETROSPECT.

While yet on the threshold of another year, and claiming, as we do, to hold the position of teachers, it may be well to retrace the ground travelled during the past twelve months in order to appraise our year's work according to its visible results. But our position as editors of the only journals devoted to bee-keeping in the Kingdom, together with the fact of the present number being the first of our twenty-first yearly volume, prompts us to cast our thoughts still further back, and, in the light of to-day, compare the present condition of the pursuit with what it was twenty years ago, when, in the month of May, 1873, the first number of the *British Bee Journal* appeared.

So far as the *B. J.* is concerned, the retrospect is thoroughly satisfactory to us as editors. We can point to its work and its teaching, and aver without egotism that it has ever been progressive, practical, and sound. Harking back as far as the memorable exhibition held at the Crystal Palace in 1874, the modern method of bee-keeping was there appropriately and effectively illustrated by demonstrations with living bees, by the then editor and founder of this *Journal*, Mr. C. N. Abbott—happily still amongst us—before crowds of bee-keepers, many of them experienced hands, to whom his skill in manipulating bees was a revelation. These men carried back with them to their own localities a new insight into bee-work invaluable to themselves, and through them to whole districts, as is within our own knowledge. At the show referred to, some very fine examples of bee-craft were staged, both in the hive and honey classes—all excellent in their way and most creditable at the time, but which would present an instructive contrast with an equally extensive show at the present day. In a word, the intervening time between 1874 and 1893 has been made the most of; everything connected with hives and appliances has been immensely cheapened and improved; new contrivances without number have been introduced, while methods of management have improved in a manner patent to all except the few who are so wilfully blind as to refuse to admit that any advantage is obtainable through modern methods.

But coming to the events of the present, it may be said that in every forward movement the *British Bee Journal* has played a prominent part, and holding, as it does, a perfectly independent position, free alike from what are known as trade interests, or indeed any interests outside those of ordinary journalism, save that of bee-keepers themselves, it has neither criticised in an unfriendly spirit, nor helped any one to "grind his own axe" to the detriment of others. Neither can it be said that our relations with readers have been otherwise than most cordial. Nor have we been subjected to hostility of any kind, excepting in one instance, which comes from an outside source. We refer to the question of Tunisian bees, or as some would have them called, "Punics." In this matter we did what we believed to be our duty to our readers, and though in the performance of this duty we have incurred the hostility of one or two, it gives us no concern. Our motives were good and the approval of good men is all we seek.

The visit of Mr. Cowan to North Africa, and his extensive and thorough researches on the spot, failed to discover any race of bees there but one. Moreover, subsequent letters from bee-keepers dwelling there, which have appeared in our pages during the year, have abundantly confirmed the accuracy of his conclusions in stating this much; and whether North African bees are called Tunisians, Kabyles, or by any other name, they are shown to be one and the same, the evidence, both scientific and practical, being quite conclusive on this point.

There is also abundant evidence that the attempt to introduce these bees into America under the name of "Punics" has completely failed, reports in the American and Canadian bee journals having with one exception been unanimously unfavourable, the single exception referred to appearing in a journal interested in the sale of these bees.

Continental bee journals, too, have, without exception, endorsed our action, and agreed with our conclusions with regard to these bees, several of them expressing high approval of the course taken by Mr. Cowan in sifting the whole matter to the bottom. It only remains, therefore, for us to express satisfaction at the result.

The task of visiting Tunis and the Desert of Sahara was no light one, but it yielded much pleasure of a personal kind, as well as information likely to be of permanent use. If the object for which the journey was undertaken has interfered with the business projects of some persons, and, in consequence, caused us to have had our motives misrepresented, and even our veracity questioned, it must be taken as one of the unpleasant experiences inseparable from the performance of what we take to be a public duty. So far, then, as we are concerned — beyond safeguarding in the future the interests of our readers—the matter is now ended, and — to use an American phrase—"voicing" as we do the bee industry of the United Kingdom, we may say there need be little fear that bee-keeping will be rendered less satisfactory among us in the future, as we believe it would be if North African bees were introduced into our apiaries, no matter by what name they may be called.

It is only by such incidents as the Tunisian bee controversy, and the correspondence it has evoked, that readers—or we may say even ourselves—can form an adequate idea of the widely-diffused channels beyond the United Kingdom in which the *B. B. Journal* circulates. It is not too much to say that our paper is now read all over the civilised world. While Mr. Cowan's knowledge of foreign languages and of science keeps him in constant correspondence and close touch with all the leading and scientific bee-keepers in the world—this fact alone giving the *B.B.J.* advantages which are self-evident — moreover, it would be difficult to name another bee journal having readers and contributors in so many different parts of the globe, and that its influence has been felt, and our labours as editors appreciated wherever it has travelled, is especially gratifying to us.

The past season of 1892 has been productive of results which cannot fail to have an important bearing on the future of bee-keeping. Our readers have been fully informed of what has been done by way of diffusing free instruction in modern methods of bee-keeping under the auspices of County Councils, in the furtherance of which work excellent service has been rendered by the B. B. K. A. and its affiliated Associations. A syllabus containing suggestions for the use of lecturers on bee-keeping has been formulated, and a new set of lantern slides on bee-subjects for the same purpose has been prepared under the guidance of the parent Association, and a set of these slides are now at the service of such Associations as may need them. Then we have the pleasing announcement to make that the British exhibit of home-produced honey, now being prepared for competition, prior to its dispatch to the World's Fair at Chicago, is an assured success, and will do credit to our bee-keepers.

Of new and improved methods in bee-management, honey-production, and also in appliances, the year just ended has been anything but one of standstill. There is plenty of interest, as well as room for experiment, in the new methods, which will, no doubt, have full trial in many apiaries. Finally, and in closing our brief retrospect, it only remains for us to wish all readers a happy new year, and it goes without saying that we hope it may be a prosperous one for bee-craft and to all who take an interest in the busy little worker, the honey-bee.

THE BRITISH EXHIBIT FOR CHICAGO.

The Sub-Committee of the B. B. K. A. having charge of the arrangements for the competition in connexion with the above, met at 17 King William Street, Strand, on Wednesday, the 4th inst., just as we went to press. We shall, therefore, have to defer our report of the proceedings until next week. Meantime, it may be said that all the honey intended for staging has been received, and the time and place where the honey will be on view will, we hope, be announced in our next issue.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1282.] When I sent my last "Notes" the weather was very mild for the time of year, and people prophesied a green Christmas; but the fates willed it otherwise, and we had a real old-fashioned Christmas—severe frosts, a slight sprinkling of snow, and trees covered for days together with rime, sliders and skaters enjoying their healthful pastime not only by day, but far into the evening by the light of fair Luna. But if the weather has been characteristic of the season, what of our poor bees? How will they pull through such sudden changes of temperature from the summer heat in the sunshine of a Sunday or two back to the over twenty degrees of frost during the past week? Well, it is a severe pinch for them, and weak colonies will suffer a reduction of numbers if not extinction; but, as the old adage says, "We must be prepared for the worst but hope for the best."

The present sharp frosts will also nip the tender grass-plant, and the general complaint among the farmers is that the grass-plant, except sainfoin, is very thin; but the mild autumn has helped it very considerably, and the rootlets have beeen able to go deeper into the soil. Some may say, "What has this to do with bees or bee-keeping?" Well, to such I will say, "Wait a wee till the grass-fields are white with clover blossoms or brown with dearth, and see if it is not an important factor in the welldoing of our bees." I am always on the alert to know what kind of grass seed is being sown by my neighbours the farmers, and I take an interest in how the crops are growing in the spring, and then work my apiary, so as to be ready just in the nick of time. Otherwise I should have no honey ready for the "Royal" shows.

I thank Mr. Wells for his reply to the "Harmonious Blacksmith" *re* wax. It clears up any doubts on the point. I myself have never had any quantity of wax in one year, and Mr. Wells' amount seemed very large to me, when I read it, for the size of the apiary. Of course it entirely depends on the method of working. I work nearly all comb honey, and therefore sell wax and honey together. Whereas another, running a large apiary chiefly for extracted honey, would get a considerable quantity of wax. In fact, at Mr. Wells' price, it would prove a good item in the balance-sheet. Wax in this part of the country will not fetch more than 1*s.* 2*d.* to 1*s.* 4*d.* per pound, and in some instances cottagers will sell at 1*s.* per pound to the grocers, and said grocers cannot make more than 1*s.* 2*d.* Of course Mr. Wells' wax, being principally from cappings, must be of good, light colour, and would be worth more than our prices to foundation-makers for super foundation.

The mention of foundation suggests a jotting I have forgotten from time to time—Do bees work out the foundation? I unhesitatingly say they do, even of the very thinnest make. In the spring of 1891 I sent a parcel of wax to Mr. Howard to be made up into foundation, with a request that he would put the screw on his machine, and make it as thin as possible. In due course it came back, some in stock size (seven sheets to the pound) and the rest (my selection) into the best sample of super I had seen as regards the manufacture, but I was not particular enough as to colour of cakes sent, and the colour was rather darker than I liked it to be. Now, during the summer I proved, beyond the question of a doubt, that the bees used this foundation in forming the side walls of the cells—more than half an inch both sides of the midrib; although it was so thin it took over 100 sheets, $4 \times 4\frac{1}{8}$, to weigh one pound. The colour of the wax cells showed quite distinctly how far the foundation was drawn out, and where the bees continued the cells with wax prepared from the early light-coloured honey that they were bringing in. This taught two lessons—first, that foundation is a great help and saving in hives, as the thin sheet supplied the bees with about half the wax required to hold a pound of honey—and even if it takes only twelve pounds of honey to make one pound of wax, with honey at 6*d.* per pound, the wax costs the bee-keeper 6*s.*—so that in every 100 sections I save at least 3*s.* by the use of foundation. Secondly, that super foundation ought to be of a pale straw-colour, and then there will not be two colours in the cells, shading off from the darker to the lighter colour when the honey is being used at table. This will tend towards the lessening of the production of comb honey, and consequently increase the profits of the honey-producer—an object we should all hold in view for the benefit of the craft.

I trust those who have devised and used swarm-catchers or self-hiving arrangements will give us the benefit of their experience, and if the same have not proved so successful as the designers wished, by all means try again: don't forget Bruce's spider. I look forward, hoping to see the swarming difficulty surmounted. We have not reached perfection in bee-keeping or appliances by a long way. Succeeding genera-

tions will probably smile at our crude systems as we do at our forefathers' methods.

In the drawing of straw-skep making, December 15th (p. 490), the hole shown for supering appears very small. I should make it at least four inches in diameter, and, as a beginning of the crown, should use a piece of wood with a hole three and a half to four inches cut in centre, and then make some gimlet holes all round to sew the first ring of straw to it. If the pieces of wood can be turned with a groove around the edges it will make a better fit of the wood and straw. Then I would make them of a good size with quite flat tops for supering, say, fifteen inches in diameter and ten to twelve inches deep, and at the entrance after it is cut drive in a good-sized peg of wood into the straw, and sew both sides of the entrance an inch or two with copper or galvanised wire. This will strengthen the hive entrance and make it more durable. Then give a good coat of stone-coloured paint to the front part of the hive likely to be exposed to the weather. Around the entrance, also, this will preserve the straw from decay.

We have started a new year, I trust a good honey year. If (?) the cycles run in thirties we shall have a good one in '93, as it was in '63 that Mr. Fox had his two large glass supers weighing gross 123 and 126 pounds, and a swarm of that year, which swarmed on June 28th, gathered a super of ninety-three pounds net. That was cheering to the bee-keepers of those days. May history repeat itself and Providence send us a succession of good seasons to cheer us bee-keepers. Then, brethren, let us endeavour to catch the noble aspirations of Tennyson, and—

> "Ring out the old, ring in the new;
> Ring out the false, ring in the true,—
> The larger heart, the kindlier hand;
> Ring out the darkness of the land."

—W. Woodley, *World's End, Newbury.*

BEE-KEEPING IN THE SOUTH OF FRANCE.

[1283.] I do not read English, but there are here bee-keepers amongst my friends who do. Your *British Bee Journal* is read by several bee-keepers, who translate what they think most important for the *Bulletin* of our Society (Société d'Apiculture du Departement du Tarn), and give a summary of the remainder. We receive the *British Bee Journal* quite regularly.

The Bee-keepers' Society of the Department of Tarn, founded in 1889, numbers 200 members. We therefore started at a time when bee-keeping in movable-comb hives had for some considerable time been practised in various parts of France, and we were consequently able to profit by the experience of others. From the commencement we tried to find the most simple hive, and the one which would be the most suitable for the mass of bee-keepers. We have consequently adopted the horizontal hive, having twenty to twenty-four frames—Layens type, greater in depth than in width, and answering to the dimensions given by M. Bertrand in his *Conduite du Rucher*, and by M. de Layens in the *Construction economique*. Our methods of culture have been simplified. We were not long in perceiving that the country people hesitated to go in for bee-keeping owing to the complicated work required in giving attention to bees. Most of our bee-keepers make few visits to their colonies. In the spring they ascertain the condition of their hives, replace all the frames, and only open the hives again to take the harvest of honey.

I live at Albi, and have an apiary at Villefranche-de-Lauragais, near Toulouse. I go into the country at Easter, and again for August and September. At Easter I examine all my hives and put in all the frames; then in September I get in the harvest of honey and prepare my bees for wintering. The colonies treated in this way develop very well and give good results.

This is the state of bee-keeping in these districts. We leave the bees to renew their queens of themselves, and we do not require syrup-feeding in spring, because we leave ample provisions for wintering. We allow our bees as much rest as it is possible to give them.

In the spring of 1893 we shall have a show at Albi. Do come if you can, for we shall be most happy to receive you. M. de Layens has promised to be present. You will find here apiaries similar to the one you saw in Savoie belonging to Dr. Henon. The method of cultivation is the same, and with a *minimum* of attention we obtain a *maximum* of return. This is the only way of bee-keeping for agricultural people, as they have frequently to be in the fields just at the time that their apiaries would want their attention. You see we are, therefore, entirely in accord with your theory and with what you wrote in 1885: "We recommend that bees should not be disturbed more than is absolutely necessary," &c.

Hives with supers would not admit of such simplification. In my case, if I had such hives, I should be obliged to keep in the country a man, who would have to inspect the hives and put on supers, whereas no one troubles himself about my bees. All my Layens hives are securely locked.

English hives are too small for our districts. In 1889 I stopped in the English section at the fine exhibition made by Mr. T. Blow. I examined everything minutely with great interest, and I came to the conclusion that his hive would not suit our style of bee-keeping. There was no special department for bee-keeping at the Paris Exhibition, so that it was impossible to arrive at an idea of the state of apiculture in France.

A few days ago I tasted the hydromel and "eau-de-vie" which M. Derosne, of Doubs, sent us. The hydromel is not quite old enough or matured. The eau-de-vie is excellent. The hydromel that I tasted of M. de Layens' is very

good, and one is easily deceived with it unless told that it is simply honey wine.—L. Fourcassié, *Albi, France, December 24th*, 1892.

STANDARD HONEY JARS.

[1284.] As I have been for some time on the look-out for the best one-pound honey jar, I have been much interested in the letters which have lately appeared on the subject of a "standard bottle." I cannot say that they have convinced me that there is any great necessity or advantage for the B. B. K. A. to adopt a special bottle, unless by doing so they could supply those members who require only a few dozen at a moderate rate. But I see certain disadvantages. (1) They might discourage invention and improvement in this direction, and (2) some bee-keepers who are attached to other kinds of bottles might not care to compete at shows where a particular bottle is mentioned, *e.g.*, Mr. McNally is partial to the screw-capped, and I am as strongly in favour of the corked "globes." The weak point as regards bottles for honey seems to be that the manufacturers send out "nominal" or "full" pound bottles, according to their own notions of the density of honey, and as their standard of density is generally a low one, the result is that if a pound of the finest honey is put into the "full" bottle, it will not nearly fill it, and the appearance is not nice, as Mr. Wood observed; and if the same is placed in "nominal" pound bottles the danger is it may be half an ounce short. Then the question is, which will the public prefer, quantity or quality? for they cannot have both in the same measure and at the same price. I know what the answer of connoisseurs and all who can appreciate good honey would be. They would, without any hesitation, pay a higher price for the smaller bottles containing the best honey than look at the quantity of the inferior honey in the other bottles.

To say that in bottling honey in nominal pound bottles the same considerations apply as in the case of a baker selling bread under weight is beside the mark, for with bread only weight is taken into consideration, and not the space which the bread occupies. Indeed, can any comparison be more ridiculous? The baker's object should be to make the bread rise and fill a goodly space, not by adding extra flour, but by allowing the air to penetrate. Our ambition should be to condense the honey, and get rid of excess of moisture.

Again, I would ask those who are ready to impute dishonest motives to those who use "nominal" pound bottles instead of the "full," who is the greatest offender—he who strives to sell the best article, though at times it may be slightly below a certain weight, or he who sells the correct weight of an imperfect article? Or, put it in another way, which would pay a dishonest man most, producing sixteen ounces of thin, unripe honey, or fifteen ounces of perfect honey? The former, of course, far and away; because, supposing he had preserved shallow frames full of comb from the previous season, he might extract them three or four times in one season if he were not particular about the density, and did not wait till they were sealed; but if he waited till they were ready, he could not, perhaps, extract them more than twice.

Now, the greatest need seems to be for our central Association to step in and decide on the average density of good honey, and then inquire whether there are sufficient bottles in the market of various shapes, &c., holding one pound of honey of the standard density, and if there are plenty these should be recommended or adopted; but if they find most of them unsuitable, then they might invite tenders for bottles of standard size, and encourage the competition by offering prizes, and whilst recommending several they might go further and tentatively adopt for a time the best moderate-priced bottles for the benefit of those members who at present pay heavily for small orders.

As to encouraging dishonesty, I cannot see why a standard bottle should do so any more than the standard ($2 \times 4\frac{1}{4} \times 4\frac{1}{4}$) section; for an unprincipled bee-keeper can easily make his bees fill the latter with sugar syrup instead of honey. And, in passing, I would suggest two safeguards against unscrupulous producers, who stoop to adulteration, the most prevalent of all trade customs. First, let all who have at heart the progress and success of our Association, *carefully grade their honey*, and send out in good years only the first quality from well-sealed virgin combs, and in moderate seasons also the second quality, explaining to the purchaser the reason for its lower price, if tasting of pollen or inferior in colour, but always keeping all unpalatable and thin honey for consumption in the apiary. If they follow this method and educate the people to distinguish good, pure honey, I can from personal experience give them the greatest encouragement.

My largest customer, a grocer, who takes about a quarter of a ton annually, finds that the Yorkshire public are more particular than the Bristol public (*vide* "Stray" or Wild (?) "Shots," 1225). Nine years ago he used to select honey from samples, and usually chose mine: but two years ago he informed me that his customers waited till mine arrived, and would have no other, and remarked, "I am, sir, entirely in your hands, and must agree to your price, to which I must add my profit." Secondly, the B.B.K.A. should appoint an analyst to test for a small fee their members' honey, so that when selling wholesale to a new customer, they could offer to procure the opinion of the analyst. Thus the middleman would have a check on dishonest honey producers, and have no excuse for selling adulterations.

But if there are not sufficient reasons for the B. B. K. A. standard bottle, individuals who are constantly sending out a gross or more bottles of honey will find every advantage in keeping to a particular bottle.

Some time ago I felt what a boon it would be to have plenty of travelling crates, holding one to two dozen bottles, ready in order to save time and labour in packing; but, of course, I could not make the crates until I had decided on my bottle. As it may be interesting to those who, like myself, have been looking out for the best one-pound honey bottle, I will relate the *pros* and *cons* of the bottle I have adopted for my own use.

Five years ago, seeing Messrs. Breffit & Co.'s advertisement in your *Journal*, I asked that firm to forward me samples of their honey bottles. It resulted in my selecting the globe, No. 2745, as the most attractive and suitable receptacle. There was, however, one great disadvantage—according to the catalogue it held only fourteen ounces. I got over this by offering a grocer who wanted a quantity of honey sixteen bottles to the stone. After I had supplied him with one and a half hundredweight of splendid honey, as I was one morning bottling another instalment, the bottles felt very heavy, so I weighed the contents of a few and, to my surprise, discovered that these bottles held more than a pound. Thus, owing to the statement of the catalogue, I found I had given away twenty-four pounds of honey with their bottles. Since then I have tried other bottles, but the above grocer insists on having the globes, as his customers prefer them.

As the size of the "globes" was satisfactory, I compared them with other bottles, and especially the screw-capped, in other respects, and came to the conclusion that, in *quality of glass*, they were second to none.

In *shape* they were the most elegant and taking, easiest to clean, and from which the last few ounces of honey could be easily removed with a teaspoon without messing one's fingers, which it is impossible to do with the tall screw-capped; and for this reason alone, perhaps, all practical judges should condemn the latter.

Then, as regards *safety in travelling*, I have found that more than fifty per cent. of the screw-capped leaked (Mr. Woodley may well ask for a screw-cap that will not leak), and never two per cent. of globes; and here I would recommend all secretaries of shows who require the honey to be exhibited in only the former to have always a servant ready, with basin and towel, to make the exhibits sightly after their journey.

Then, with respect to the *purity* of honey, I asked myself, "Ought delicately flavoured honey containing formic acid to be allowed to come in contact with any metal?" If not, then we must not use the screw-caps, for the thin cork wads afford no protection here, and I decided that the simple corks of the "globes" were far preferable.

Then, lastly, as to the *price*. I suppose the best screw-capped bottles would average about 24*s.* a gross, whilst the "globe," with corks, cost only 14*s.* per gross. This will, no doubt, be the chief point for the B. B. K. A. to discuss, for, if they would encourage labourers to keep bees, they can hardly sanction any competition which compels them to procure costly bottles.

I trust we may before long have the opinion of the Central Committee on the subject of a standard bottle. In the meantime, for the information of those who would like to try the "globes," I would add that Messrs. Breffit & Co. allow five per cent. discount on five-gross orders. And, further, if any bee-keepers or county Associations feel as strongly as I do the need of sample honey bottles, it would be well worth our while to unite together and order half and quarter-pound bottles of this pretty "globe" shape, which, strange to say, have not yet been made, but the same firm are ready to make at 7*s.* 6*d.* and 6*s.* 6*d.* respectively if twenty gross are ordered. Thus we might secure a bottle valuable not only for honey, but one which I am sure would be in great demand for jellies and table decorations, as it would form one of the prettiest of vases.—RICHARD M. LAMB, *Burton Pidsea, Hull.*

NEWS FROM ALGERIA.

[1285.] Brother Mathias, of the Trappe, has succeeded admirably in your photograph. I can just fancy that I see his grin when I let him see his likeness. I send you the plan of my first installation of the Debouno apiary. I have just transferred from Arab hives to my frames all the combs. There are 96 hives in the covered apiary, which consists of two sheds 20 metres long each and 3½ metres wide. My hive is especially advantageous, as it is a cheap one. It is a slate-packing box, which holds about 20 to 25 slates. We have a circular saw driven by two horses, but just now we are working it by steam. I saw off the ends of these cases, remove the nails, plane the top edges, and attach the iron runners, which contain the notches for receiving the nail supports of my frames. After cleaning up their edges, I nail them on again, and thus I get a hive that will contain a brood nest with a frame 39 × 28 centimetres. The doubling boxes or supers are also made from such boxes, and are half the height. I prefer these boxes on account of their cheapness, and presently I am going to try the large Langstroth frame which you saw in use at La Trappe. In the transferring which I have just done I have learnt to recognise the advantage of larger frames than mine, which is indisputable.

I do all the sawing myself for the hives—frames, division boards, and sections, &c.—so that in this way you see we have a very cheap hive. My frames are arranged 37 mm. ($1\frac{7}{8}$ inch) from centre to centre, and nails project which hang in notches filed in iron runners, and then a wire rack at the bottom for keeping the frames in position and vertical.

You speak of Mr. A. Todd, who was a bee-keeper at Blidah. I have often heard him

spoken about, more particularly by a man named Malebois, who purchased his apiary.

Mr. Todd had certainly chosen a district where there were plenty of orange-trees, but no other flowers; mountains, arid and gravelly lands all round. But a few kilometres lower down this is changed.

At Ooued-el-Alegue and Bonfarik there is a yellow *medicago*, which I showed you when you were here, in very great abundance, which yields a large quantity of superior honey, also sainfoin in profusion.

It is a great pity that Mr. Todd did not succeed at that time, for as you made the remark, bee-keeping here has not developed in proportion to the resources of the country. But the results that I hope to obtain will certainly open the eyes of capitalists. However, I promise to keep you well informed of the progress we make.

I forgot to mention that my transferring succeeded well, for out of 130 Arab hives I have now ninety-six frame hives. The hives which had their queens destroyed united without trouble with their neighbours, and without fighting. I tied the combs, which were more than half full of honey, into the frames with packthread. To-morrow I shall commence the installation of the second apiary at St. Charles, close to the side of a hill covered with sainfoin. I have an Abbott's hive for working sections, which were a speciality of Mr. Todd's. M. Malebois told me that he used to purchase fifteen to twenty litres of milk a day, and that it was for his bees. I am rather curious to know with what object.—J. Regnier, *Bonfarik, Algeria.*

[In those days there was a great deal of talk about a milk and egg diet for bees, and it was no doubt for this purpose that Mr. Todd used this milk. Mr. Todd himself wrote several articles on this subject.—Eds. *B.B.J.*]

CHRISTMAS CHIPS.

[1286.] I beg to call your attention to an error which appears in the second paragraph on page 503 (December 22nd), where "per cwt." should read *per* 100 *kilos*. Many readers may have noticed this to be an error, but a few may be already making packing-cases in which to ship their honey in bulk, glad at last to have found a market where they could sell at 9*d.* a pound and no bottles to pay for, while not a few may have exclaimed, "Grand Old Switzerland, that buys honey at 9*d.* per pound and sells its own produce at 1*s.* 8*d.*!" It looks as if the term *cwt.*, as applied to honey and also to beeswax throughout that paragraph, would refer to so many *hundred kilos*, or to about double the quantities there stated.

The following, from *Work* for December, may be found useful for preserving the legs of hive-stands from decay:—"*Timber Coating.*—To make wooden posts that are in the ground last as long as iron, mix boiled linseed oil with pulverised coal to the consistency of paint, and coat it over the timber, and there is no man who will live to see it rot."

In *L'Apiculteur* for December, Rev. J. B. Voirnot says: "At Troyes, Châlons-sur-Saône, a prize has been awarded to an extremely small object ingeniously conceived, the glossometer, or instrument for measuring the tongue of bees, invented by Mr. Charton-Froissard, general secretary to the Society 'L'Abeille,' of Troyes. Three-fourths of the visitors who have observed these words over this apparatus—'Silver-gilt medal, diploma of honour,' must have asked themselves many questions. But, to those well acquainted with the subject, there is in this an idea productive of much good, that is, to multiply or increase the number of those colonies or races of bees whose greater length of tongue will enable them to gather the nectar at a greater depth in the long, narrow corolla of certain flowers."

The last season has proved a good one to several Swiss bee-keepers. In the last number to hand of the *Revue Internationale d'Apiculture*, a case is stated where six hives have completely filled thirty-two supers. The twenty-four hives (spring count) of that bee-keeper have given him 2446 pounds of extracted honey, leaving an ample supply for wintering; besides which they have furnished the stores for nine late driven swarms to winter on Another bee-keeper, Mr. Vierling, of Niederhasluck, is reported to have gathered 4800 pounds from twenty-eight hives, or about 170 pounds per hive. One of his early swarms has filled its supers eight times, producing 350 pounds of extracted honey. Mr. Vierling is a very proficient bee-keeper. The honey-flow was so intense with him from the beginning of June to the end of August, that he had at each extract to remove the honey from a few of the side combs in the body of each hive, and place two frames with full sheets of foundation in the centre of the brood nest. With these precautions for maintaining a certain breeding-room to each queen, the prolonged great income of honey causing it to be exceedingly restricted, the population of each hive was kept up, notwithstanding that a very large loss of bee-life or mortality was experienced, especially during the latter half of the honey-flow. Mr. Kuntz, hotel-keeper, at Howald, whose apiary Mr. Cowan visited in company with M. Bertrand a few years ago, has taken 3800 pounds from forty-eight hives. Eight of his strongest colonies have gathered each from 180 to 210 pounds of honey. Several other good takes of honey are reported, but the season, as a whole, is said hardly to be equal to that of 1887, in which there was not such a prevalence of dry weather.—Peter Bois, *Jersey.*

[Our correspondent is in error, as a hundredweight is as nearly right as we can convert a *quintal*, which is 50 kilos, and equal to 110¼ lbs., or just under one hundredweight.—Eds.]

VINEGAR AS A STING REMEDY.

[1287.] Your correspondent Mr. Farthing (1213, p. 432) asks: "Have any of your readers

tried vinegar as a sting remedy?" I can say that I have used it for some years past, and always recommend it in preference to anything else. I do not, as a rule, find stings affect me much; but about four years ago stings began to be so painful to me that I was rather loath to handle them, but if I had vinegar handy I generally found it to almost immediately relieve the acute pain, although I do not think it has any effect as regards the subsequent swelling. As to sting preventives, my own opinion is that bees are less likely to sting when the hands are rubbed with a few drops of such a solution as Mr. D. Grimshaw advertises; but it is not infallible, and to what extent, if any, it is a preventive I cannot say; but then I have not had very much experience, as stings do not affect me sufficiently to make me trouble about using it.—A. T. WILMOT, *St. Albans.*

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

December, 1892.

Rainfall, 2·43 in.	Sunshine, 63 hrs.
Heaviest fall, ·56 on 1st.	Brightest day, 4th, 6·50 hrs.
Rain fell on 13 days.	Sunless days, 10.
Below average, ·04.	Above average, 9·75.
Max. temp., 49° on 3rd.	Mean max., 39·9°.
	Mean min., 30·8°.
Min. temp., 20° on 27th	Mean temp., 35·2°.
Min. on grass, 12° on 27th.	Max. barometer, 30·55 on 16th.
	Min. barometer, 29·55 on 11th.
Frosty nights, 22.	

The Year 1892.

Rainfall, 26·94 in.	Sunshine, 1859·4 hrs.
Heaviest fall, 1·11 in. on August 18th.	Brightest day, June 24th, 15·35 hrs.
Rain fell on 155 days.	Sunless days, 54.
Below average, 1·94.	Above average, 87·45 hrs.
Max. temp., 79° on June 28th.	Mean temp., 46·14°.
Min. temp., 16° on Jan. 10th.	Max. barometer, 30·67 on Feb. 13th.
Min. on grass, 12° on Dec. 27th.	Min. barometer, 29·10 on March 15th.
Frosty nights, 101.	

L. B. BIRKETT.

OUR LIBRARY TABLE.

Amongst the bee literature which has recently appeared the following books and pamphlets are most worthy of notice.

Der Führer am Bienenstande. By E. Bertrand. Translated by H. Spühler. Published by J. Huber, Frauenfeld.—This is a German translation of the popular *Conduite du Rucher,* and contains a translation of the biography of the author which appeared in the *British Bee Journal.* We have several times alluded to the nature of this work and have only to add that this translation has been admirably made, and will be a welcome addition to the literature of bee-keeping. The book is well got up and distinctly printed in bold type on fine paper, which brings out the illustrations to perfection. We understand that this work is being translated into Flemish. The book is divided into chapters, each chapter being devoted to the work of a month, so that the bee-keeper can easily learn what special work he has to do in any particular month. At the end there are chapters on different races of bees, appliances and hives, and directions for making honey wine, or hydromel.

Ptschela e oulay. By G. Kandratieff. Published by A. F. Devient at St. Petersburg. 2 roubles 50 copeks).—This work is a translation of Langstroth's *Honey-bee,* revised by Messrs. Dadant. M. Kandratieff has done full justice to Langstroth's work in the translation, and a service to the bee-keepers of Russia. That the translation has fallen into the proper hands is evidenced by the fact that M. Kandratieff, who was a friend and pupil in bee-keeping of the celebrated Russian bee-keeper, Professor Boutleroff, is not only a literary man and editor of the *Journal of Foreign Bee-Culture,* but also an accomplished bee-keeper. The translation is from the French edition, and is therefore the better adapted to European bee-keeping. The volume is very well got up, and contains 480 pages of bold, clear type, and 123 illustrations reproduced from the originals. We welcome this addition to our bee-keeping literature.

Ptschela, jeja gisn i glavnéar pravilar tolkovago ptschelovodstvo. By A. Boutleroff, St. Petersburg. 60 copeks.—This volume is the seventh edition of the well-known work by Dr. Boutleroff. It is to this work that is due the present state of progressive bee-keeping in Russia. For a number of years before his death Professor Boutleroff devoted much time to bee-keeping, and was a frequent contributor to the Continental bee-papers. It was he who first recommended the phenol treatment of foul brood in 1874. He also translated Berlepsch's book, and founded a school of apiculture at Tver, as well as two Bee-keepers' Associations in St. Petersburg and Moscow. He first made known the Caucasian bee, of which race he had an apiary at Soukhoum-kalé. The work contains 141 pages and an appendix of ten pages, as well as a large number of illustrations, The very fact that 10,000 copies of this work have been printed shows that progress in bee-keeping is being made in Russia.

Vestinck Innostrannoy Literatourie Ptschelovodstrar. Editor, G. Kandratieff.—This is a new bee-paper in the Russian language, and is in reality, as its name implies, a "journal of the literature of foreign bee-culture." It is to consist of eight parts yearly, and it contains reviews of most things worthy of notice in our bee-papers. M. Kandratieff has travelled much

in Europe, and is well acquainted with the different races of bees, as well as the various methods adopted by the leading and most successful bee-keepers in Europe. He is, therefore, well adapted for conducting such a journal, and we hope he may meet with the success for it which, from the first few numbers we have seen, we think it deserves. The subscription price is one rouble a year.

La Fausse-Teigne (*Galleria-cerella*). By J. Dennler. Translated from the German by J. Barbiche, editor of the *Apiculteur*. (Paris: office of the *Apiculteur*, 167 Rue Lecourbe.)—This is a small pamphlet by our well-known correspondent, M. Dennler, treating of the wax-moth. In it will be found its natural history as well as a description of the ravages it commits in a hive, and, what is most important, the means whereby it can be kept in check. This, to a novice, is often very difficult, and we have seen hives nearly destroyed by wax-moth where their owners know nothing of the way to keep themselves free from this pest. In some parts of our country wax-moth is still very prevalent, especially where bees are kept in skeps or complicated hives, whose parts are not easily accessible for cleaning. Those interested in this subject should procure and study the pamphlet.

A NEW CURE FOR BEE-STINGS.

In a conversation with J. B. Adams, the Boulder county bee-inspector, he detailed a new cure for bee-stings that relieves the pain instantly. The inspector uses a disinfectant solution of one three-hundredth part carbolic acid mixture to each pint of water, to which is added a table-spoonful of salt. Accidentally punching the business end of a bee, and feeling pretty warm when the bee sat down on him, he thought to cool the spot by applying some of his disinfectant solution, when, to his astonishment, every particle of pain left him. He has used it frequently since then, and it has proven successful in every case.—*American Bee Journal.*

AMONG THE BEE-KEEPERS OF CALIFORNIA.

Bee-keeping around Jurupa Mountain.

The Riverside apiary, described in Ramble 65, is situated upon the extreme eastern point of a broken range of mountains, about seven miles in length and not over a mile in width, and known as the Jurupa Mountains. The formation is, in many respects, peculiar, and it is evident that some convulsions of nature thrust them up here in the centre of a plain, or it might be called a prairie. These mountains are nothing more or less than piles of huge granite boulders. The granite in some places is quarried for building and monumental purposes. Upon another detached mountain near Colton, less than two miles in circumference, are lime-kilns, cement works, marble quarries, both white and variegated, and an occasional pocket of onyx. In the Vermont quarries the stone is found in large and inexhaustible masses or seams; but here it is in large boulders; and when one has been quarried it is not certain that another of like quality will be found. There are also traces of gold and silver, but it is found in quartz pockets, and scarcely pays for the investment of capital to develop.

To give some idea of the honey resources of this little range of rocks, with the aid of Mr. Clark on one side and Mr. Wilder's broncho on the other, I obtained some notes and snap shots from the saddle. Setting out from the rambler's cabin and following down the north side of the range, after a mile of travel we find the apiary of Mr. Choate. Here are one hundred colonies, and a new and complete honey house; and, though the stocks were very weak in the spring, the surplus amounted to 2500 lbs. With his bee-keeping and ranch work, Mr. C. puts in his spare time in the large cannery at Colton.

Within half a mile of Mr. Choate's is a newly established apiary of fifty colonies, owned by Mr. Vaughn, who also lives in Colton. We now proceed nearly a mile further, and in front of the broad and level Cucamonga Valley we find the 200-acre ranch of Mr. W. E. Clark, with cattle, horses, poultry, and peach, orange, apple, and fig trees, and 170 colonies of bees. While Mr. Clark operates the ranch, Mrs. Clark operates the bees, and proves to be a skilful operator. This apiary was started about six years ago, from two colonies that were dug from the rocks above the ranch. Being novices in the business, the bees were first put into various nondescript hives; but learning of the better management in movable-frame hives, the swarms were properly transferred, After an increase of fifty-seven swarms from seventeen, and considerable honey in one season, the bee enthusiasm increased, and the apiary now numbers 170, and the product this poor season was 10,800 lbs. Of course they believe bee-keeping pays, even in a poor season. Mr. and Mrs. C. belong to the class of hospitable Californians; their latch-string not only hangs out, but their door is wide open, and the weary traveller is always welcome. The nearest neighbours are two miles away, and one of these, a Mr. Button, with a poor season before him, commenced with twenty-five colonies; increased them to fifty; sold some stocks, and secured 2000 lbs. of honey, a few colonies "giving down" at the rate of 200 lbs. each.

Down toward the west end of the range we find the apiary of Mr. Langton, an Englishman who came to California with barely a hope of saving his life from the serious inroads of consumption; but the climate has given him a measure of good health and hope for many years yet on this terrestrial ball. We found Mr. L. very busy hanging out the family washing, which showed a very helpful spirit towards the busy hands in the house. Mr. L. during this

very poor season, has increased his bees from thirty-three to sixty-two, and secured 5400 lbs. of honey.

A little less than a mile from Mr. Langton's we found another bee-keeper, Mr. Bloom. His first colonies were also dug from the rocks and planted at the base of the mountain, where they have grown to a good apiary; and seventy-two stocks in the spring of this very poor season had increased to 110, and given 11,325 lbs., or over 100 lbs. to the colony. This is the last apiary westward on the range, and the valley broadens out here and stretches away off towards Los Angeles. The yields of honey at this point and further down the valley were better than upon the eastern end of the range.

From this point a lone and deserted cabin is pointed out on the plain, where a lone bee-keeper was murdered and his body cremated under the burning material of his barn. So, lone bee-keepers do come to a bad end; but it is where perhaps enemies follow up their victim to avenge some wrong.—RAMBLER *in "Gleanings."*

(Conclusion next week.)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

FRANK R. SELL (Cornwall).—*The "Wells System."*—Any hive holding fourteen or more standard frames is adaptable to the system referred to. We do not advise placing stable manure against hives for warmth. Artificial heating is nearly always more or less injurious to bees.

REV. B. T. SYMONDS (Newport Pagnel).—*Bee Flowers.*—Among the best flowers for bees may be named crocus, white rock, wall-flower, mignonette, borage, and nasturtium.

DUNCAN THOMSON (Invergue).—*Bee Candy.*—The maker referred to is J. Saddler, Confectioner, Forfar.

APIS (Staple Hill).—*Clipping Queens' Wings to Prevent Swarming.*—1. The practice referred to is followed chiefly in America for preventing loss of swarms. As the maimed queen must perforce fall to the ground through inability to fly, the swarm joins her there, or if she happens to be missed by the bees and consequently lost, they return to the hive. 2. If the swarm returns to the hive minus the queen, they will probably issue again headed by a young queen after the usual interval between a first and second swarm, viz., nine or ten days. If this swarm is returned to the parent hive the following morning, the bees will most likely not swarm again. Should they do so, repeat the operation on the following morning.

Special Prepaid Advertisements.

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WANTED.—Will any of our Readers supply us with the present addresses of S. S. Goldsmith, Parkstone, Dorset, and A. Green, Selston? Address EDITOR, *B. B. J.*, 17 King William Street, Strand, London, W.C.

WANTED.

BRITISH HONEY. Any quantity bought, in Sections. Apply to THOMAS B. BLOW, Welwyn, Herts.

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British Bee Journal and Bee-keepers' Record.

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The following are the Rules under which we are prepared to receive Sums of Money on Deposit from persons buying and selling goods.

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6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 551. Vol. XXI. N.S. 159.] JANUARY 12, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—For the information of those who are to come after us, as well as for the benefit of bee-keepers of to-day, it will be useful to place upon record some evidence regarding the midwinter of '92–3. On the night of December 27th, at Loughborough, in Leicestershire—which would appear to be the *cold spot* of the Midlands—the thermometer, in the screen, fell to 9° Fahr., or 23° of frost; while in the open, on the grass, at Oxford, it went down two degrees lower than this. On the same night, 12° was registered at London, 13° at York, and 16° at Nairn, N.B. (20°, 19°, and 16° of frost respectively). A couple of days later (Dec. 29th) a rise in temperature took place varying from 13° at Loughborough to 23° in London, and from this time till January 2nd the mercury, though still 4° to 10° below freezing, showed no phenomenal fall anywhere till the night of the 3rd inst., when, in Kent, it dropped down to 5°, or 27 degrees of frost. This is the lowest we have seen recorded so far in these islands this year up to the date of writing.

Rivers and canals have been frozen over, north and south, east and west, skating in safety being possible on rivers, lakes, lochs, and canals—indeed, wherever water was to be found. The water in our London parks presented solid sheets of ice about six inches thick on the 3rd inst., and the upper reaches of the Thames were frozen over sufficiently strong for skating. Crossing, as we do daily, the great "silent highway," the effect of slowly moving masses of ice, sailing along with the current, is very interesting and novel, and makes one wonder how the large steamers departing from the Thames "below bridge" manage to make their way through the large and seemingly solid blocks of ice without serious damage to screw-blades and paddle-floats.

Altogether we have had a genuine old-fashioned winter for nearly three weeks past. Talking of "good old-fashioned winters," it is curious to observe how the notion is handed down from generation to generation that the climate of this country is undoubtedly changing; that winters are not now as they used to be in our young days. We have just had sent to us an extract from the *Annual Register*, a magazine published a century ago, where, under date 1793, it says: "The climate of England, in the opinion of many, has of late years undergone a considerable change. Formerly we used to have smart frosts in winter, and hot, and sometimes dry, summers. For some years past both winters and summers have been generally wet, with so little ice that luxury, by its agents, has been obliged to procure it from foreign parts." In comparison with the above, our present winter is a very "old-fashioned" one indeed. How the bees will have fared while it has lasted a few days may show, for a considerable softening has taken place during the last few days, and although bees have not appeared outside, they will have been moving within, changing position and feeding no doubt having taken place during the present higher temperature to the manifest advantage of the whole cluster.

Since writing the above we have had indications of what appears to be a general break-up of the severe frost. At Nairn, N.B., between the mornings of the 6th and 7th, the thermometer rose nineteen degrees, and at Aberdeen twenty-one degrees in the same interval. Rain has fallen in many parts, but no snow as far as we can hear. It may therefore be assumed that we have seen the end of the unusually severe frost of the present year.

PROTECTION IN SEVERE FROST. — The "hint" we offered when last writing in this column as to adding extra top covering to all stocks, we ourselves took advantage of; but, except setting above the quilts all the warm materials we could lay hands on,

including the contents of the "old-clothes bag," we have done nothing by way of protecting our hives beyond the usual outer case, with the open air-space between it and the hives proper. We are leaving them so advisedly, and will not pack this space with the usual stuffing of old newspapers till such time as we desire to increase the warmth of the brood nest at the end of February or in early March. If bees can safely weather a winter in Kent—such as the present one—in thin, light hives, protected only by an equally thin outer case, we shall recognise no necessity for further packing in the severest weather till the time for the need of stimulating warmth arrives.

BRITISH BEE-KEEPERS' ASSOCIATION.

Honey for Chicago.

We are requested to state that the work of preparing the honey for the above is now being rapidly pushed forward. The total number of exhibitors is just one hundred, the weight of honey comprising the British exhibit being between eight and nine hundred pounds. A full list of names of donors will appear next week, and the honey will be staged for competition at 17 King William Street, Strand, W.C., and will be on view between the hours of 10 a.m. and 4 p.m. on Wednesday, the 18th, and Thursday, the 19th of January.

Second-Class and Special Foul-Brood Examinations.

The following have passed their second-class examinations, held on 28th and 29th October last, including foul-brood examination, and have obtained certificates :—

H. Atlee,	F. J. Cribb,
T. W. Jones,	W. A. Withycombe.

In addition to the above, the following, who had previously obtained certificates, have now passed the special foul-brood examination :—

W. Coxon, | J. Palmer.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of December, 1892, was 1737*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

THE NEW "FALCON" SECTION.

We have just received a sample of the work of the new machine recently erected by the Falconer Manufacturing Company of Jamestown, N.Y. The sections to hand are beautifully made; indeed, we do not remember ever having handled so fine a specimen of woodwork before in the section line. If the bulk equals samples they will well illustrate the perfection to which American wood-working machinery has arrived, while leaving nothing to be desired by the bee-keeper.

MAKING THE MOST OF BEE-KEEPING.

The Editor of the *Bee-keepers' Review* (American), in a recent issue of that journal, invited a number of its leading contributors — who are also prominent among the most experienced bee-keepers of America—to give their views upon the following question :—"In which direction ought bee-keepers now to work to better their condition?" He also appended to his invitation the somewhat unusual request that each of those appealed to would, in reply, contribute "the best article he ever wrote." The object sought was to obtain an answer, from practical men, to some very pertinent questions put by the Editor, wherein, among other sensible things, he says :—

"Bee-keepers have had winter losses, foul brood, low prices for honey, and poor seasons to contend with. Sometimes one of these burdens bears quite heavily, then it becomes less weighty and another takes its place. A few years ago the trouble seemed to be to find a market for our product. Several poor seasons in succession have removed that trouble effectually, but the remedy is worse than the disease.

"Taking bee-keeping as it is, what does it most need? Does it need better appliances? Shall we keep more bees and establish out-apiaries, or shall we keep less bees and do something else?

"If a man is to stay in it, what shall he do different than what he is now doing?"

The Editorial request was responded to by several well-known and reliable American bee-men, from whose articles we purpose giving extracts, in order that British bee-keepers may learn how far American ideas coincide with their own in solving a problem of equal importance in both hemispheres. If sufficient interest is aroused to induc-

some of our experienced bee-keepers to ventilate the subject from a British point of view, we shall be very pleased to open our pages for its discussion.

Mr. R. L. Taylor, of Michigan, says :—

"Until a time that is within the memory of many still living, the hive was a sealed book, but, thanks to the love of investigation, and to the ingenuity of Langstroth, the seals were broken, and its pages opened with a touch of the fingers of every reader. Against the barriers of fixed natural combs the waves of progress had broken for ages, but at length they were overthrown, and movable combs came in. This was a revolution in itself, but it was more—it was the parent of revolutions. It created a necessity for the honey-extractor and comb foundation, and showed the way to the present shape of section comb honey. With the necessity there was possibility, and these twain, harnessed together, are all-prevailing. The needed discoveries were made, and bee-keeping took a respectable position among other rural pursuits. A want of some means of controlling queens and drones was felt, and perforated zinc was found, in its various applications, to satisfy it. A multitude of other wants have been supplied by appropriate devices, so that it would seem that the outfit of the business is now well rounded up.

"What is there still to come? What lack is there? What want is felt?

"Some want non-swarming bees; some a non-swarming hive; and some a self-hiver. We would all, no doubt, like an arrangement by which all the bees of an apiary could be induced to store all their surplus honey in one common pile of section cases.

"Necessity is the mother of invention, but Possibility is the father. There may be a want of non-swarming bees or a non-swarming hive, but so long as birds build nests, so long will bees swarm. Many appear to think they need a self-hiver, but one cannot well afford to buy and place in position 200 self-hivers to catch sixty or seventy prime swarms. That would be too costly and too laborious. Besides, for other reasons than swarming, it is profitable to give personal attention to an apiary, during the swarming season, as often as once every two or three days. Good queen-traps would do the rest, and in any case, I suspect, they would be preferable to any self-hiver.

"There will, no doubt, be many devices discovered from time to time that will relieve the bee-keeper in a small way, but, search as I will, I can discover no great need that can, by any possibility, be met by any wonderful invention. He who, peering into the mists of the future, proclaims that he discovers an invention approaching that is to create a revolution in apiculture, may be set down as a visionary, or else he has made some miscalculation.

"If my conclusions are correct, it follows that the chances of success in apiculture will turn upon the man, rather than upon any sleight-of-hand in management, or magic of invention, so the Editor has done the right thing in calling for the best advice that can be given to bee-keepers.

"'What a wonderful thing is advice!' I have found myself exclaiming as I have been meditating on this subject. I could give advice that would revolutionise the world in an hour. How honest, and industrious, and temperate, and peaceful, and Christian, and blessed this world would be! No wonder there are always so many who are ready to give advice. But there is a difficulty about it. To be effectual, it must be taken. Nevertheless, with the hope that those interested in bees are more attentive to their interests than are other classes, I will close with the best advice I can give bee-keepers.

"Prevent waste. There is no occasion for a well person in this country to be poor. Waste, in some form, makes the difference between poverty and comfort. Are any of your hive-covers, or bottom-boards, or feeders, or other implements of the apiary unnecessarily exposed to the weather? What becomes of your broken comb and pieces of wax? Do you allow the moths to destroy your empty combs? If so, get your hand on the stop that controls waste and bear on. Get on it with both feet if necessary. It will improve your circumstances.

"Don't chase rainbows. You think you are an inventor, but you are not. That new hive, or frame, or other contrivance you have been planning so long—drop it, and be a little wary of other people's inventions. Your endorsement is not necessary to save a good thing from oblivion, and your money can't save a bad one. Don't waste time waiting for some promised invention that is to work wonders. The chances are a thousand to one that it won't come, and like odds that, if it comes, it will prove worthless.

"Don't get discouraged. Be neither elated nor depressed. Don't give away your bees, nor don't destroy them. Crowd them for all they are worth, but go slow on increase. Add as few to the number of your colonies as possible. Feel your way till you know your ground, and stick close to your business. The horse with the best staying qualities is the one to bet on.

"Strike while the iron is hot. In bee-keeping, work *must* be done at the right time. To do otherwise is to give success away. If you will do everything at the right time, your work will not crowd you at any period. Get everything ready this winter for the honey season and swarming, and then keep up with your work.

"Finally, don't get excited about new things or new ways. Follow present plans until, in your coolest moments, you decide a change to be the best. Let others try novelties first. Exercise your intelligence, and keep your head level. Sleep well at night, and keep wide awake in the day-time."

(*The next article will appear on January* 19.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

IN THE HUT.

"A winter such as when birds die
In the deep forests, and the fishes lie
Stiffened in the translucent ice."—SHELLEY.

[1288.] Here there is a steady night temperature of 20° in the shelter of a bay window facing east, and when I compare this with the thermometer hung outside the Hut, I find a variation of about 5°. This gives us a minimum of, say, 17° of frost. Nothing can be done about hives beyond hooking out the dead from the entrances with a bit of bent wire, and it is needless to say this should be done as gently and expeditiously as possible. A cone of fine ashes may be built up to the edge of the flight-board. There used to be a small and select Society of Huttites, but bad seasons have sickened them of bee-keeping—that is, bad seasons coupled with bad management; they have given it up, not having backbone and grit enough to stand misfortune. I like men who will *pull through* a time of trouble, and then yield if they like to; pull through till a good season comes, and *then* give up if they have a mind to. And I like bee-men who have the courage of their opinions, in spite of the adage:

"In every age and clime we see,
Two of a trade can ne'er agree."

They agree to differ, and differ to agree. It is surely in the striking together of flint and steel that we get kindling sparks of light and truth. I suppose, if we ever get a conference of, say, a hundred of the best bee-keepers in Britain, it will be a "warm time." Yes, and the warmest bee-time is after all business is over, and one goes in for a friendly chat. Then we find positivists amongst us who have strong convictions of their own, and take care you don't forget it. I have had many, many of such earnest, enthusiastic chats, yet never do I remember an angry word being passed.

"D—d neuters, in their middle way of steering,
Are neither fish, nor flesh, nor good red herring."
DRYDEN.

But to return to the Huttites who are gone. They are relegated to that class who, having learnt "all about it" (oh! excellent phrase), fail, and back out.

What say you if we look into past numbers ("Tell me not in mournful numbers") of the *B.B.J.*, as in a cemetery, for the names of prominent enthusiasts, who are "no more" as bee-keepers? Veterans of the Abbott and Hooker type stand out the more prominently as landmarks as the years roll on, and the mind calls into being the great bee-keepers of our early days, to whom difficulty and disaster were only fresh incentives towards victory. Another sad and solemn spectacle is that Necropolis of yours—the advertising columns of past years. Now, as advertising is the moving spirit of the age, is it not a fair inference that the ceasing to advertise has been instrumental in removing many "off the field?"

The discussion on standard honey jars is assuming great proportions, and as a good many have expressed their opinions *pro* and *con*, I trust that the suggestion emanating from the Hut, and strongly emphasised by the Rev. R. M. Lamb (1284), will be carried into effect, viz., that the Committee of the B.B.K.A. should deal with the whole question as to the desirability or otherwise of having a uniform standard size jar. The official stamp having been given to the standard frame naturally led slowly but surely to its general adoption. People insisted upon having any size they preferred, and were not prevented. So it will be if we get a standard jar, but it will ultimately resolve itself into this: that at all shows connected with the B.B.K.A. and its affiliated Associations uniformity in the get-up of competing honeys wil be required; exhibitors will surely drift into the inevitable. Cheapness, clear whiteness of glass, freedom from bubbles, graceful and sightly shape, corks, tie-over or screw-cap—all these points would be debated and decided upon by men well qualified to fix on an all-round (no joke!) best bottle for the bee-keeper. Again, I admit the varying density of honey will be a difficulty, but a bottle to hold up to a given mark a pound avoirdupois of average honey will not be a serious matter to find. At present all is chaos; you give too little, and rob your customer, who thinks he buys one pound weight, or you give too much and rob yourself. Which of the two is the greater evil please do not ask

—X-TRACTOR.

ARE BEES DEAF?

[1289.] This is a question which scientific writers on the order of *Hymenoptera* seem to be unable to answer. Some do not even refer to bees having any sense of hearing, or otherwise, at all, but, with the exception of Mr. F. W. Vogel, Mr. Cheshire, and one or two others, they appear to go round the question, and—in effect, at least—say very wisely, "Well, you know, we cannot exactly say that bees are deaf, but we think they must be devoid of hearing,

because no one has been able as yet to locate their ears.'

Some writers on the subject, at any rate, have the courage of their convictions and declare that bees are all as deaf as the proverbial doorpost, but, in coming to this conclusion, I cannot help thinking that they have arrived at this opinion without sufficient data to justify so positive an assertion of a fact (?) which is admittedly a most difficult one to prove.

It is well known, and may be accepted as a truism, that soft and pleasant sounds have more effect upon bees, and, indeed, upon many insects and animals, than loud and discordant noises, as in the fable of the Pied Piper of Hamelin and the rats of that town; and it is far more likely that better results would be obtained by using gentle means than by those of a violent and sudden nature.

I would, in support of this argument, quote Cook's *Manual*, page 58, where he says, "A slight jar will quickly awaken a colony of hybrids, where a loud noise will pass unnoticed;" and again, on the same page, speaking of the auditory powers of bees, he says, "Every apiarist has noticed the effect of various sounds made by bees on their comrades of the hive, and how contagious is the sharp tone of anger, the low hum of fear, and the pleasant tone of a new swarm as they commence to enter their new home."

Many writers argue that, though not possessed of the sense of hearing, bees can distinguish, are conscious of, or are effected by, vibrations of air and light. I would ask whether this is not tantamount to hearing? All I know is, that "oft in the stilly night" have I listened at the hive-side, and heard the murmur of the bees rise and fall—one, two, and even three tones—like a wave flowing from back to front, and back again, in the space of a few seconds, which surely could not be caused by atmospheric vibrations within the hive, unless the bees have senses capable of appreciating such vibrations, and certainly not by the vibrations of light, because it was dark within and without. I have also heard (in piping times, of course), the pipe of the queen and the almost instant rise in tone of the hum of the whole colony, which, to my mind, would have been impossible unless the bees had a pretty cute sense of hearing, or some other sense analogous thereto, about which the author of *Ants, Bees, and Wasps* says "we can form no idea."

Again, I would ask why—as in the system of double-queened hives—if a swarm issues from one stock, does a swarm always issue from the companion stock? (See *B. B. J.*, April 7th, 1892, p. 133.) These stocks, it must be borne in mind, are divided by a partition perforated by small holes in the centre of the hive. Is it waves or vibrations of light or air, on insects so sensitive thereto, that so soon as one stock begins to swarm and the hum of excitement is filling the air, the other stock catches the fever and come pouring out also? Or is it the sense of hearing such wave-sounds that causes the companion swarm to come out at the same time as the first? Surely it cannot be said that a preconcerted arrangement existed between the two hives to swarm at the same time, whether they were both in a fit state for the purpose or not! Should it not be rather ascribed to the joyful humming of the first swarm creating wave-sounds which, falling on the tympana of the companion colony, communicate to them the fever, and so bring the whole lot out?

Probably I have not by this letter advanced the question much, but my object has rather been to draw the attention of readers—particularly such specialists as your correspondent, Mr. Grimshaw—to this wide field of research, upon which they might usefully expend a portion of their ingenuity, time, and energy. As for myself, I am confident that insects gifted (as is *Apis mellifica*) with the senses of sight, smell, and taste in so exalted a degree, must and do possess the sense of hearing also in a like degree. If they have not, well, then, all I can say is that I am a "Dutchman" and not —THE HEATHEN.

A BEE OUTRAGE.

[1290.] The writer of the following, which appears in a recent issue of the *West Kent Advertiser*, forwards the extract to us as likely to interest readers of the *Bee Journal*:—

"Sir,—As I was out for a walk in the direction of Kingsdown on Monday last, with a friend from Farningham, I observed (taking, as I do, great interest, as does my friend, in all that concerns apiculture) strange confusion in the apiary at 'Pells'—some of the hives (there are upwards of twenty there) were in the greatest confusion — carpets and quilts thrown about, covers of the hives on the ground, and altogether presenting to a bee-keeper a 'dreadful' sight, considering, too, that the thermometer had shown, and was still ranging towards, 20° of frost! On closer inspection, it was evident that some scoundrels had been robbing the poor bees of their well-earned stores—depriving them not only of all subsistence, but exposing them, their queens, and their brood, to a killing atmosphere (for bees cannot stand exposure in winter). It was distressing to see the poor bees—huddled together like shipwrecked mariners—those that had survived the ordeal endeavouring to protect their queen, and derive warmth from each other, but thousands lay dead, thousands dying.

"We warmed the quilts and packed up the hives as well as we could—of course, getting stung, for the bees could not be expected to discern friends and foes. The result will be a loss of five splendid stocks, worth more than as many pounds. The remains of the stocks will probably be united in one lot, and thus some will survive the winter.

"Now, what should be done to such scoundrels? I say, tied hand and foot, without a shred to cover them, and kept thirty-eight

hours in a temperature of zero, with a strong north-wester blowing. They would then have more consideration for those industrious and useful little friends of man. I was thinking the administration of a few thousand stings would be a punishment, but then that means death to the poor bee! She never, or rarely, draws her sword without endangering, mostly losing, her life. Fortunately, P.C. Dann tracked the villains. A piece of the bees' quilt was found at a sort of gipsy encampment near. A nice return this for Mr. Evelyn's kindness in letting such villains encamp in his wood. However, he is a magistrate, and ought to know not only what is right, but how to deal with what is wrong. I hope he will give these rascals 'six months' at least.—Yours truly, A KENT BEE-KEEPER, *December 29th*, 1892."

A REMINDER TO DR. TINKER.

[1291.] I have very patiently and anxiously awaited every week's new number of the *B. B. J.* for a most interesting letter from Dr. Tinker (958, p. 96 of *B. J.* for March 10th last) "to be continued" as stated, and hoped he might come to my rescue, as to *one entrance* for rearing a second queen in full colonies with a laying queen. May I be excused for drawing your attention to this "to be continued?"—J. G. K., *Southborough, January 3rd.*

[We, too, have been patiently awaiting the completion of the article referred to. We shall draw the attention of our good friend, Dr. Tinker, to the above, and trust he will take the reminder in the way desired by our correspondent and also by ourselves.—EDS.]

MY BEE-DOINGS IN 1892.

[1292]. At the close of another year it may possibly be of interest if I give you, as concisely as possible, an account of my doings since August 11th.

With reference to the two hives purchased on 28th July, and numbered 2 and 3, I noticed on the 13th August that, while no drones were appearing at No. 2, they were flying in numbers, and being cast out, at No. 3. I commenced giving medicated syrup (using Naphthol Beta) with rapid feeders, to encourage breeding and increase their winter store. I was somewhat surprised to find, on the 3rd September, that drones were still flying from No. 3. I gave each their syrup at sundown, and, on looking into the feeders, No. 2 was nearly cleaned out, while No. 3 was untouched, and with only two bees standing on the edge, looking stolidly at their fare. I suspected something wrong, and still more so when, in the forenoon, I noticed robbers about. I dusted some flour on them, and saw they belonged to my old stock No. 1. I at once hung a curtain, saturated with carbolic solution, across the porch, but this didn't wholly stop them, and it was only when I took a piece of perforated zinc, with an inch entrance, and coated with vaseline, that they, after the most persistent efforts to gain admission, desisted. Seeing the state of matters, and not wishing to turn up the skep for examination in such circumstances, I left them alone. I was, however, fully in the belief that the hive was queenless. On the Saturday following, when all was quiet, I turned up the skep. The bees were all crawling about listlessly; there was no brood, only some sealed stores near the crown, and no queen that I could see.

On the Friday following I went out to my friend, and got another skep, with a queen of last year in it, but very light; it weighed seven pounds without the board. I took them home, and next morning prepared to unite. There were still plenty of drones flying from No. 3. First of all, I made a light frame to fill the front of the porch, and covered it with queen-excluder. I then lifted No. 3 off its board, dusted it with flour, and covered it with scrim to keep in the bees. I then took the new hive, dusted it likewise, and set it on the board of No. 3. My assistant had meanwhile laid a board covered with a cloth on the landing-board in front, and I shook the bees out upon it. Some flew away, and some crawled off the board, but about a quart made tracks for the entrance. I meanwhile pinched off all the drones I could catch, carefully watching for the queen, until I had disposed of quite a handful, which I examined in case of a mistake. The result was, the hive had been, as I suspected, queenless. I did not expect fighting, and for three days I saw none. They have since done very well, and I put the two skeps into winter quarters respectively thirty-six pounds and thirty-four pounds heavier than when I got them. So again I have to thank adversity for affording me another lesson in the manipulation of these wonderful insects.

From my old hive I took twelve one-pound sections, beautifully sealed, and thirty-seven pounds of extracted honey from the upper box. I gave them back the frames for a week to clean, and, with a cake of naphthaline inside, they are packed and ready for next year. I put an empty shallow box below, to give them room, and I calculated they would have about forty pounds of stores for winter. From what I have heard, the heather has been a failure. There was any amount of clover-blossom and field-beans round about me, but they never had the smell one expects to feel from either. With cold, northerly winds and sunless sky, the bees seemed to have no heart for working, but I am more than satisfied. The relief that I have felt from my interest in my bees when I go out from Friday till Monday, away from the care and worry of business, and an occasional lesson in bee literature in the evenings at home, has been of priceless value to me.

There is another subject in which I am very interested, viz., working two queens in one hive. In the *Record* for May and June you gave a description of Mr. Wells' system. I make

myself believe that I understand the system upon which it is worked and its purpose; but, I am in the unfortunate position of having seen scarcely any frame hives, with the exception of Neighbour's "cottage" and those at Stirling Show. I may explain that, in the September *Record*, you say, p. 123, "If readers will bear in mind Mr. Wells' own account of what he did," &c. Well, in order to get this account, I got, through my bookseller, the back numbers of the *B. B. J.* for this year, and what still puzzles me is Mr. Wells' statement on p. 133 (in reply to your own query): "Most of the hives had sliding floor-boards, so that the floor-board could be dropped two inches, and a wedge-shaped piece was inserted below the dummy," &c. Also, on p. 73 of the *Record* and p. 193 of the *B. B. J.*: "In the evening I lower the floor-board," &c., and "You have not the advantage of lowering the floor-board," &c. It is this sliding floor-board, that can be dropped, lowered, or slanted at will, that I can't make out. There must be more in it than a trade term, some of which, as used by English joiners, puzzle us Scotch fellows sadly. I intend trying the system, but I want to know fully the why and the wherefore before I do anything with it.

By the way, and this reminds me of what had for the time being escaped my memory, could it not be possible for some of the manufacturers of bee-appliances to establish an agency in Edinburgh? So far as I know, and looking up the advertisements in *Record* and *B. B. J.*, nothing can be got within sixty miles, and to see anything is for a great many out of the question. With few exceptions bee literature is not obtainable in this city, except by order. I believe few have any idea how few really good hives can be found in this neigbourhood, and there are numbers of bee-keepers who have not the remotest idea where anything except a straw skep can be had. I felt disappointed that at the show in the Waverley Market there were so few bee-appliances shown, and others have expressed the same feeling of disappointment to me since. Something surely could be done for us so as to give us a chance, were it only to follow in the footsteps of your intelligent and up-to-date English bee-keepers.

Before concluding this inconceivably long letter, I would take leave to say that I think all honour and credit is due to Mr. Wells for bringing *his* hive before the readers of your valuable periodicals, thereby conferring upon those who may intelligently wish to adopt its principle the benefits of his invention. At the same time, I cannot help feeling pained, not to use a stronger expression, at the attempt on the part of some of your correspondents who would wrest the right (Mr. Wells makes no claim) of originality from him, and who, on their own showing, do not understand the end and aim of the idea which underlies the whole, and which is so forcibly and plainly put in your leader in the May *Record*, and on page 176 of the *B. B. J.*, in reply to a query (1010). But these claims to inventions are nothing new, and whether the invention consists of "using flour as a pacifier," "putting on a box of shallow frames above the brood nest," or "working two queens in each hive," some one is sure to crop up who had seen an "old shepherd, of forty years' standing as a bee-keeper," use the first; another "had been dreaming all winter" about the second; and, for the third and latest, one is found quoting Holy Scripture: "There is nothing new under the sun," he exclaims; "I made and worked a hive on the same principle as Mr. Wells in the spring of 1866, and stocked it with a swarm the same year." But enough! I could imagine that there are people to be found in this world who, with very little effort, could persuade themselves into the belief that either they or their forefathers had invented and made an ark, and saved the remnant of a submerged world long before Noah was in existence!

Allow me this opportunity of again thanking you for all the assistance I have got from you, directly and indirectly, and to assure you that the wish which accompanied your first communication to me, "That I might derive both pleasure and profit in my new hobby," has been most amply fulfilled.—ROBERT PEEBLES, *Edinburgh.*

SELLING HONEY AND STANDARD JARS.

[1293]. Having had about six years' experience in selling honey at retail prices in our local markets, the question of size, pattern, and "get up" of the one-pound bottle is one on which I can speak with a little authority, especially as the quantity I have sold in this form has run so high as half a ton in a single season. Of course, in this respect as in others, districts differ in their requirements, but here I have had to combat difficulties that do not perhaps confront such honey kings as Mr. McNally and Mr. Woodley, whose successes as prominent exhibitors have probably done much to open up to them good markets for their produce. The only honey for sale in Carlisle market had, prior to my offering it there, consisted of "tops," *i.e.*, small baskets placed on the skep proper, combs taken from skeps, and run or "strained" honey in nondescript pickle or other bottles, the last being the contents of such combs as were considered unfit, from their age or colour, to be offered entire. It was generally much mixed with pollen and other remains, so that when, in 1886, I offered my first extracted honey in the flower market, and also in the butter market, it was looked on with much suspicion, few, seemingly, having ever seen so clear a sample, and many not hesitating to openly affirm that to be so clear it could not be otherwise than "adulterated," the result being that I sold part of it at 6*d.* per one-pound bottle, and returned home a disappointed bee-man. Now, as I had determined to build up a good apiary, this was far from

satisfactory, and I set myself to clear away this prejudice and to make a market for my honey.

In my enthusiasm, I had purchased a variety of fancy bottles, and smart labels to go with them, and these, instead of helping my sale, I found conduced to the opposite result, by adding to the already fixed quota of prejudice, and giving the idea that the fancy "get up" had some connexion with the fancy foreign fruits, &c., of the grocery store. I accordingly gave up labels altogether, and have never regretted it. In later years, as the demand for my honey increased, I have been surprised at the frequency of the question, put by those about to purchase for the first time, "Are they full pounds?" As I charge one penny per jar more for screw-caps, I, some years ago, thought it would not be a bad idea to get some fourteen-ounce "screw-caps," so that I could sell them at the same price as the "tie-overs," and accordingly purchased a half-gross of the fourteen-ounce ones, but, though I explained the difference, and had the various styles of bottles to assist the explanation, yet the prejudice was so great that I had hard work to sell the light weights at all. Now, when the question is put, I can answer that "There is a full pound of honey," and the glass weighs half a pound. That usually settles it, and a sale is effected. Having given up attending the market during the spring and summer months, I do not now do so much retailing; but having done something to create a moderate demand in this and other local markets, I have now secured customers who, for a fair margin, are willing to retail for me.

In conclusion, I find that a strong sixteen-ounce bottle is best, and looks more for the money than the lighter and thinner makes. For tie-over, I like the sexagon, or six-sided, bottle, or the ordinary-shaped tie-over; and for screw-cap work, the tall style (all of Breffit's make).

I give a full pound of honey, and have never found any objection — for market — to the quarter or three-eighths space at the top of the bottle.

A great mistake is made in rushing all the honey in as soon as ready. Producers of small quantities, or those who, like myself, are attending the markets with other products, or who have shops, should try rather to always have a little on hand. A regular demand is thus created, so that by the time your output is greater you have customers ready to help you out.

I might say that more could be got here *now* for a good sample at *wholesale* than was got at retail in the autumn, and no supply, owing to the mistaken policy of "sell at any price" which prevailed at that period. A good regular quality of light-coloured, clear honey, of good consistency, regularly supplied, is the secret, more than any other, of forming a connexion for the sale of this, not always the most saleable of rural products.—J. STORMONTH, JUN., *Kirkbride, Silloth.*

STANDARD HONEY JARS.

[1294.] I am glad to see the opinion of one so fully qualified to write on the above subject in *B. B. J.* (1284, p. 5). Mr. Lamb's line of argument and contention to my thinking is certainly the best article which has yet appeared on the subject, and personally I thank that gentleman for the clear and exhaustive manner he has treated the different points at issue. I regret the tendency shown by some who have taken part in the controversy to go outside the line of argument and impute dishonesty, or, as some term it, "trade custom," to others outside the honey trade. Our manufacturers of the present day are keenly alive to the fact that anything tending to dishonesty or fraud on the public is ultimately found out, and that it means ruin to the offender. I should like to know, from the long list of articles coming under the category of "bottled goods," what guarantee is given as to the weight of contents in same? Again, I have proved conclusively that even in trade rivalry the manufacturer who turns out the best article, no matter what is the price, gains public support and succeeds in business. What has made Lazenby's pickles so famous? Why, the superior quality of the contents, *not the bottle.* Yet these goods are sold at nearly double the price charged by some other makers turning out a similar-sized bottle. The same remark applies to first-class honey. The good article will always command a good price, irrespective of the jar it is sold in, while inferior quality, no matter how elaborate the bottle, will be sold at its value, and I hold that there is less intention of dishonesty in selling a fourteen-ounce bottle of first-class honey at 1*s.* 6*d.* than in offering a guaranteed sixteen-ounce bottle of thin, watery honey for 3*d.* per bottle less. It remains with the B.B.K.A. to say we will, or will not, have a standard bottle, and I trust that august body will soon give their opinion on the subject.—J. D. MCNALLY.

STARTING BEE ASSOCIATIONS.

[1295]. In and around Brampton there are probably over 300 hives—bar-frames and skeps about equally divided; the owners of the former generally working on intelligent lines, while the skeppists mostly trust to chance as their great-grandfathers did before them. We wish to form a Bee-keepers' Association, but do not know how to proceed. Will you, therefore, kindly furnish a few hints in *B. B. J.*, as information on the subject may prove of service to others similarly situated, *i.e.*, wishful to start Associations yet ignorant of how to commence.

Perhaps I may suggest a few leading questions. 1. What subscription is usually paid? 2. What constitutes the work of an Association? 3. Do County Councils make grants for lectures? 4. Are District Associations connected with B. B. K. A.? (*a*) If so, how, and what is the

benefit? 5. How does an Association secure the services of an expert? 6. Who guarantees his *expertness?*—A. A. DALLMAN, *Brampton, Carlisle.*

[Mr. John Huckle, Secretary of the British B. K. A., Kings Langley, is better able to give information on the subject of starting Associations than any one we know, and if our correspondent will write to him, the needed assistance and information will no doubt be willingly supplied.—EDS.]

AMONG THE BEE-KEEPERS OF CALIFORNIA.

BEE-KEEPING AROUND JURUPA MOUNTAIN.

(*Concluded from page* 10.)

We now pass around the mountain and work our way up the south side; and a young man, Mr. Rance, from twenty-five colonies in the spring increased to fifty and secured 3120 lbs. of honey, which is not bad for a young man during this poor season.

Another hitch along the base of the mountains, and we enter a very rocky and cupshaped canyon; in fact, it is almost an amphitheatre, with its abrupt rocky walls on three sides. Here is an apiary of 115 colonies, owned by our friend Wilder, of Grayback and watermelon fame.

Mr. Wilder searched for a long time to find a location that would fit his name, and finally succeeded. Stones abound, both above and below, and of a size to suit the most enthusiastic admirer of stones. In the rocky pass above the apiary it is Wilder's wildest, where rocks seem ready to roll down of their own accord. The cabin is about as large as the big rock on the right, and is located near an unfailing spring; and upon a day when the mercury gets the hundred mark it is wonderful to see the steady stream of bees that pass the cabin for water. In this rocky retreat Mr. W. has, in this season of uncertainty, taken 9120 lbs. of honey, and seems to have no appearance of the blues.

This retreat abounds in small game. Both rabbits and quail can be shot from the door of his cabin. As our friend is an expert cook in all its departments, quail or rabbit on toast is served in the most epicurean style, and the California flap-jack act can be performed to perfection.

Mr. W. is a skilful taxidermist, and samples of his handiwork are visible in the shape of rare specimens of California birds. The only missing links in the chain of his enjoyment are a helpmeet and a generous patch of watermelons.

Messrs. Helmer and Pratt have a flourishing bakery at Riverside. The Pratt portions of the firm devotes a part of his time to the cultivation of the busy bee. Near another spring that peeps out of the mountain is this apiary; forty-three colonies in the spring increased up to ninety-eight; and 4000 lbs. of honey secured as the product of this apiary, is sold to a great extent in the bakery. Both comb and extracted honey are produced. Speaking of selling honey in this way, Mr. Pratt said they sold for a little better price; but as it came in littles and went in the same way, they didn't feel the profits so much as when sold in the lump, and they could handle a roll of bills or a bag of gold. This season migratory bee-keeping has been practised by them. The bees have been removed to the river bottoms with good results. A few colonies kept in the city put in some fine orange-blossom honey, some of which we hope will find its way to the World's Fair.

The nearest apiary to Riverside, on this range, is owned by Mr. Parks. His hives are among great rocks just above his ranch, and he has the reputation of securing the largest yields of any bee-keeper in the vicinity. This very poor season his yield from sixty-five colonies is only 6000 lbs. Three years ago he had a good season, and his seventy-five colonies gave him 33,000 lbs., or an average of 440 to the swarm. Mr. P. believes in a liberal use of foundation, and combs that get clogged with bee-bread are taken out and replaced with it. He believes in using a three-story hive, and wants a queen that will keep ten frames filled with brood. His ranch and orange grove, however, encroach so much upon his time that he thinks of disposing of his bees in a year or two; but, speaking reflectively, he said if we have another season like this California will lose its reputation as a large honey-producer.

Mr. Samuel Furguson, who was with us on Grayback, owns the next ranch and apiary; and, like Mr. Wilder and the Rambler, he is a lone "bach." He has a cosy cabin embowered under eucalyptus and pepper trees. Water is developed in the canyon above, and a reservoir is nearly completed to collect water to irrigate the ranch. The apiary numbers 215 colonies. The hives are in two double rows. A track is laid between the rows, and a car is used to run the combs to the extractor. The hives are covered with a framework for shading them in hot weather. The shades were not in place this season, owing to the short yield of only 11,000 lbs. Mr. Ferguson seems to have everything ready for a bird in his cage, but the birds round the cabin seem to be mostly quail.

A little apiary owned by a consumptive, and another of seven hives, complete the circuit of the mountain, and we find on the seven square miles, 1287 colonies in fourteen apiaries, counting both great and small. The total amount of honey sold was 76,500 lbs.; and although the bees were on the seven square miles embraced in the mountains, their field of operation was on valleys ten miles wide. The sources of nectar were sage, orange, wild buckwheat, horehound, sunflower, and wild flowers in profusion. Excepting the temperature, which was up to 100°, I had a very pleasant journey, and some thrilling experiences which will be next duly recorded by the—RAMBLER, *in "Gleanings."*

Queries and Replies.

[704.] *Remedies for Dysentery and Wax-moth.*—Would you kindly answer the following questions for my instruction:—1. Is the enclosed sugar pure cane? 2. Is Demerara sugar suitable to make candy with for winter food for bees? 3. How long will a cake weighing 1½ pounds last for a stock without any other food? 4. What is the best treatment for a stock badly infected with dysentery?—is it contagious? 5. What can I do to stop the wax-moth making havoc in a hive?—H. R. C., *Carnarvon.*

REPLY.—1. We cannot say for certain, but fancy it is not. 2. Only refined granulated white sugar is suitable for making bee-candy. 3. Much depends on the way the bees take to the candy and the strength of the stock, as well as the state of the weather at the time. In mild weather, a strong lot of bees, feeding freely on it, would take a 24-ounce cake in about a fortnight or three weeks. 4. A warm, dry hive, with only as many frames of comb as the bees can cover, and well-made, wholesome food. The disease is not contagious, but if the internal condition of the hive and the food induce it at all, it will, of course, affect the whole colony. 5. Keep stocks strong, and the wax-moth need not be feared; but where a stock is infected by it, all combs containing the larvæ of the moth should be removed, and the bees crowded upon the remainder. Floor-boards, quilts, and coverings should also be cleaned, and all trace of the moth larvæ washed away.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

AMOS T.—We should endeavour to smooth over the trouble with your neighbour in a friendly way—"boys will be boys" you know, and it was but a boy's trick to "toss the roofs of the hives off" because he had been stung. You could obtain no redress for the mischief by law.

A BEGINNER.—*Buying Bees.*—The best time to buy stocks is in March or April. If they are then strong, healthy, and thriving, you may expect a return for the outlay this year. But you should get the opinion of an experienced bee-keeper as to freedom from disease.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Pure English Honey, in 60-lb Tins, at 7*d.* per lb. Address T. HOLLIDAY, The Apiary, Astbury Congleton, Cheshire.

FOR SALE.—84 lbs. of Granulated Honey in 1-lb. Tie-over Bottles. Put on rail for 3*l.* 10*s.* Address A. WREN, Five Ashes, Mayfield, Sussex.

FOR SALE.—Pure Extracted English Honey, ½-cwts. at 8*d.* per lb. Tins free. Sample 2*d.* Address R. DUTTON, Terling, Witham, Essex.

WANTED.—Will any of our Readers supply us with the present addresses of S. S. Goldsmith, Parkstone, Dorset, and A. Green, Selston? Address EDITOR, *B. B. J.*, 17 King William Street, Strand, London, W.C.

FOR SALE.—About 300 lbs. of 1892 Granulated Honey, in Jars containing 35 to 56 lbs. Address H. C. POLAPET, Tamar, Launceston, Cornwall.

HONEY taken from Customers, 8*d.* per lb.; cwts. 7½*d.* per lb. Tins free. Sample, 3 stamps. Address EDEY & SON, St. Neots.

PURE ENGLISH HONEY.—½ Cwt., 8*d.* per lb., tins free. Sample, 2*d.* Address R. DUTTON, Terling, Witham, Essex.

THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

OFFICE:

17 KING WILLIAM STREET, STRAND, LONDON, W.C.

The following are the Rules under which we are prepared to receive Sums of Money on Deposit from persons buying and selling goods.

In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER," *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee-appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, i.e., any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 552. Vol. XXI. N.S. 160.] JANUARY 19, 1893. [*Published Weekly.*

Editorial, Notices, &c.

SENSATIONAL TALES ABOUT BEES AS TOLD IN THE PAPERS.

It will be remembered that some few weeks ago we reprinted a press cutting entitled "Wonderful Work of Bees," and that the contents of this cutting were — through a slight inadvertence — construed by some readers as having met with editorial approval. In consequence, some amusing correspondence ensued, which appeared in our issue for December 8th, p. 480. We have just now been favoured by an Essex correspondent with another cutting from a popular weekly paper, having an enormous circulation, which makes it probable that several duplicates of the extract will be in our hands before this appears in print. The article referred to would seem to have been written by some one possessing about an equal amount of knowledge or experience of the subject as the writer of the "Wonderful Work of Bees" already mentioned.

Our correspondent asks if certain statements—which he has underlined—in the article "are true?" In reply, it may be said that there is in it a minimum of truth mixed up with a maximum of fiction. In a word, there is so much of what any bee-keeper of ordinary intelligence and experience would call "rubbish," that it would be a waste of time and space endeavouring to prove it such. We ought not, however, to pass unnoticed the fact that our correspondent puts a direct query as to the truth or otherwise of certain portions of the article, and refers especially to the fifth and sixth paragraphs, wherein are given the honey averages of England and America. We answer the question by asking another, viz., from whence does the veracious chronicler obtain his figures? But, if our correspondent is fond of figures—which we are not—and will multiply the number of hives in America (2,800,000) by 22 (the average number of pounds of honey got from each), he will arrive at the total quantity of honey in pounds which is gathered in an ordinary season; then by valuing it at 4*d.* per pound (a very fair price in America), he will get at the total sum the honey is worth; or say, in round figures, 1,027,000*l.* In the very next paragraph comes the statement—made by an American this time—that in 1892 (a notably bad season in America) honey was secured to the value of four millions sterling!

What also could be more worthless and misleading than a statement that last year's crop in America was worth nearly half a million sterling more than the whole average crop of all Europe put together! Verily, it seems as if bees and bee-keeping were especially chosen as subjects for misrepresentation of this kind. But we must leave our readers to appraise the value of the article for themselves, from a bee-keeper's point of view, by inserting it in full, as follows:—

"The mention of bees is to me like the proverbial red rag to a bull. Ever since I can remember they have been persistently and perpetually pointed out to me with an air of reproach. But I have had my suspicions.

"It is very easy for the bee to boast about 'improving the shining hour' in this country where the sun never does shine for more than ten minutes. Then as to the bee's vaunted industry and thoroughness, which every one talks about so much, I fail to see where they come in.

"The ordinary bee only puts in some three hours' work at the best of times during the day. The rest of the time it hangs about and loafs. The thing is a hypocrite from head to tail.

"However, it is only fair to say that when the bee does work the result is good.

"The great country for this tribe of stings and honey is America, and throughout the United States can be found at the very

least 2,800,000 hives. These belong to some 70,000 bee-farmers who on an average only manage to extract twenty-two pounds from each hive.

"In Europe the bee-owners are more successful, as the average yield from the English hive is fifty pounds. A hive as a rule holds some 5000 gentlemen and ladies, who generally manage to make things hum when they are all at home.

"Some American, who has just been totting up the figures, says that during the past year the bees who live in the U.S.A. produced honey to the value of 4,000,000*l.* This is not bad work.

"The most important bee-farmer in the States is a Mr. Harbison, who looks after no fewer than 6000 hives, which annually bring him in 200,000 pounds of honey. As this may fairly be valued at 8000*l.*, it will be seen that apiculture is a profitable business if only you are bold enough and sensible withal.

"The annual production of the bees of Europe may be estimated at 123,200,000 pounds of honey, which is worth rather more than three and a half million pounds sterling. This might at first sight lead any one to suppose that my remarks about the busy bee being a righteous fraud were instigated by spite and jealously, and were made without reason.

"But it must be remembered that this grand total, large as it is, does not necessarily indicate any industry on the part of the individual bee. To make that enormous amount of honey occupied for twelve months no fewer than 123,200,000,000 bees!

"This calculation is based on the premise that one hundred bees on an average only make a pound of honey in a year, which is about as near to the truth as it is possible to arrive. It is interesting at this point to mention the fact that one hundred bees weigh exactly one ounce, or, in other words, an ounce of average bees make a pound of honey in twelve months.

"I believe that of European bees the greatest number are German. In that country it may be reckoned there are some two million hives. Spain can claim the distinction of being the second country in importance as far as these little buzzing insects and their honey are concerned.

"The largest natural hive in the world is the Mammoth Cave of Kentucky. Here myriads of bees have made their home, but how much honey they produce it is impossible to say. Probably some fabulous amount."

Further comment is needless, except saying that however amusing, or even interesting, to non-bee-keepers such articles may be, they are certainly not instructive. Moreover, they tend to hinder and not advance the best interests of the pursuit—whose exponents have not the advantage of a weekly circulation counted by hundreds of thousands—by creating an unjustifiable prejudice against bees which spreads over a wider area than a technical paper can hope ever to reach.

HONEY FOR CHICAGO.

The following is a full list of names of those whose donations of honey for the British exhibit at the World's Fair at Chicago have been safely received at 17 King William Street:—

Rev. G. W. Bancks.
Rev. Dr. Bartrum.
Rev. W. E. Burkitt.
Rev. L. B. Birkett.
Rev. C. Feetham.
Rev. R. M. Lamb.
Rev. F. T. Scott.
Hon. & Rev. H. Bligh.
Baroness Burdett-Coutts.
W. J. Anderson.
H. Attfield.
T. Badcock.
E. Basley.
H. Basley.
C. J. Baster.
Jno. Baxter.
S. W. Beall.
L. Belsham.
W. Boxwell.
F. H. Brenes.
J. Brown.
J. B. Butler.
Captain Campbell.
T. Charles.
A. J. Carter.
Cathedral Dairy Co.
J. G. Cherry.
E. A. S. Cotterell.
T. W. Cowan.
A. H. Cowan.
Miss H. B. Cowan.
Percy Cowan.
Bertie Cowan.
W. B. Carr.
S. & E. Cooper.
J. Carver.
Miss Davy.
W. Debnam.
W. Dixon.
R. Douglas.
Miss B. F. Doyne.
G. Dunkley.
E. Durrant.
R. Dutton.
Miss Feetham.
H. Flick.
S. B. Fox.
Mrs. Fraser.
C. H. Gardner.
W. T. Garnett.
J. Garratt.
R. A. H. Grimshaw.
T. Giles.
J. Gittins.
R. J. Glew.
J. E. Gray.
J. Hall.
A. W. Harrison.
W. Hawkes.
G. Head.
H. O. Huntley.
H. Jonas.
J. W. Kievill.
T. F. Leadbitter.
W. H. Ley.
R. W. Lloyd.
E. Longhurst.

W. Loveday.
W. H. Matthews.
W. Lees McClure.
J. McDuff.
J. D. McNally.
W. McNally.
F. H. Meggy.
G. Newman.
J. North.
E. J. Oaten.
Capt. W. St. G. Ord.
J. Palmer.
J. Perry.
E. R. Piggott.
T. Pritchard.
W. W. Pryor.
W. Rayner.
R. W. Sealy.
T. Sells.
W. H. Seymour.
W. J. Sheppard.
E. E. Smith.
F. W. South.
W. Sturdy.
W. Sword.
J. R. Truss.
A. Tweedie.
F. Tunbridge.
A. Venn.
Jno. Walton.
G. Wells.
Mrs. Williams.
W. Winterton.
W. A. Withycombe.
H. Wood.
W. Woodley.
W. H. Woods.
F. Wooldridge.
Wotton - under - Edge Association.

The honey has already been staged, and looks very well indeed at the time of writing. Judging begins at 10.30 a.m. on Wednesday, but we shall be unable to give the result of the competition this week, owing to the fact that we are compelled to go to press first thing on Wednesday morning, before the awards have been made known. A full report of the proceedings will, however, be given in our next issue.

"BEES AND THEIR WAYS."

Lecture at Richmond, Surrey.

Under the auspices of the Selborne Society, a a lecture was given on Monday, the 9th inst., at the Richmond Athenæum, by Mr. W. H. Harris, B.A., B.Sc., on "Bees and their Ways." The fine set of slides belonging to the B.B.K.A. were kindly lent—Mr. Harris being a member of the Committee—and contributed greatly to the pleasure of the audience. Shown with the oxy-hydrogen lantern, these illustrations enable a gathering, even in a large hall, to see clearly representations of the various parts of bees described by a lecturer, and to gain a good idea of many manipulations in bee-keeping.

Notwithstanding the extremely unfavourable state of the weather, the audience numbered nearly one hundred, and all appeared greatly interested. One noteworthy fact was that two young Indian gentlemen, at the close of the lecture, requested Mr. Harris to let them have his address, and begged to be allowed to call at his residence, that they might obtain such information as would enable them to take up bee-keeping in their own country. Mr. Harris promised to do anything in his power to help them in this matter, and offered to go again to Richmond in the summer, all being well, to supplement his first lecture by a second on various parts of the subject to which, on the present occasion, he had been able only slightly to refer. The proposal was received with much applause. Several questions were asked relating to theoretical and practical points in bee-keeping, and there is reason to hope that satisfactory results will follow from this lecture.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 10th instant. Present: Rev. Canon Sadleir (in the chair), Mr. Read, Mr. Millner, Mr. O'Bryen, and Mr. Chenevix, Hon. Sec. Mr. Chenevix having announced his intention of leaving Ireland on February 1st for more than four months, Mr. Read (M. H. Read, Esq., Clonoughlis, Straffan) was appointed Hon. Sec. from that date till the General Meeting takes place.

MAKING THE MOST OF BEE-KEEPING.

(*Continued from page* 13.)

The second article on the above subject which we reprint is from the pen of Mr. James Heddon, author of *Success in Bee-culture*, and known as the introducer of the reversible hive bearing his name. It reads as follows:—

"My opinion is the same as yours in your leader, but if I hadn't publicly expressed the same in my book, *Success in Bee-culture*, in my circular, and in bee journals, I wouldn't say so, just immediately after you. I have not only publicly expressed myself as to what to do, *but I have done it*. Six poor seasons in succession, the whole not averaging more than one-fourth crop each, and yet my two apiaries, containing about 250 colonies, spring count, have paid me a good and satisfactory income for the labour performed and capital invested. No, not wholly 'satisfactory,' for I am anxiously looking for that turn of the tables you mention, and, although it lingers long, I am sure it will come. Although these one-fourth crops have paid a good interest—risk and maintenance not overlooked—nothing short of a good average crop is fully satisfactory.

As you well know, I have grown up in the bee business, have followed it as a speciality, a leading business, for a quarter of a century. That business purchased my $3000 stock in our electric light plant, my newspaper, worth $5000 (have refused $4500), my outlying city lots, and other good property, and a good living, with some luxuries on the side, and all from the sales of honey. I do not expect to 'abandon' the business while I still have the cheerful habit of residing in this world, not because of associational attachment, but because I fully expect to make it do in the future all that it has done in the past, and perhaps more. When

my labours are finished, I hope and expect that one of my sons will keep the old mill grinding, though perhaps by proxy, as a side issue. While both are now studying professions, both know what I have done, and how to do it. I have the field by right of priority and virtue of tact, and this heritage I feel sure my children will hold after me. Oh, this 'bug business,' as it was contemptively called by my neighbours when I first embarked in it (as a speciality), is a great business, I think, when rightly managed. From my book (chapter on Hives), published several years ago, I quote the following, which I deem pertinent to the well-selected theme of this issue:—

"'Necessity is the mother of invention, it is said, and the great influx into the business of honey-production, causing decline in prices, necessitates the use of such implements and methods —especially in hives—as will give us the greatest amount of surplus honey for the amount of capital and labour invested.

"'Some of us have grown from boyhood to manhood, hand in hand with this pursuit, and, while we are often complimented upon our thorough knowledge of the business, it is usually forgotten that we have as signally failed to become skilled in any other branch of industry. Such is the case, however, and, after the best part of a lifetime has been spent in any pursuit, when that pursuit languishes, circumstances tending to make it less profitable, the wise do not hastily desert it, adopting a stranger, but work the more persistently to counteract the detrimental influences, by bringing every possible advantage to bear upon the business.'

"From my circular of three years ago I quote as follows, just what I as fully believe to-day:—

"'If we reason together, we will see beyond all doubt that apiculture, like any other business, must seek its level, and when that level is reached, like all other lines of business, those engaged in it who produce at minimum cost will succeed, while those who produce at maximum cost will as surely fail. In the pursuit of apiculture there is need of capital, intelligence, both physical and mental activity, as well as industry and tact. I found it very easy to make money out of the business in my earlier engagement in it, when honey sold for double what it now brings; but when the price was cut in two, a different phase was put upon the business, and it became necessary to produce much cheaper in order to realise a good profit. This necessity was at once the mother of invention, and, after perfecting various other minor implements and arrangements about my apiary, I began studying upon hives, knowing full well that within the construction and manipulation of hives there rested that rigid economy which would still make apiculture profitable.'

"No; after all these years, after long ago making myself obnoxious by opposing the urging of everybody with the bee business, and persisting that honey was not, and never could be a staple, it turned out that I was correct, although the truth was not the most acceptable to my co-labourers. To following what seemed to be bold facts rather than pleasant theories, do I credit most of my success as a honey-producer. If 'oil-finished' facts are against me, the sooner I 'know and own and feel it,' the better I can meet them and offset their pernicious influence. Nothing has so damaged our pursuit, and so injured its followers, as the writings of those who wrote themselves to fame by writing UP the business rather than telling the plain truth about it. 'How I secured 200 pounds surplus per colony,' and 'How I sold my entire crop' (which was probably about thirty pounds) 'of honey for 40 cents per pound,' and all such slush, most of which was more or less fabulous, has worked great injury to the business and its devotees.

"As to helping out by adopting other business, do this only when this other business is to be the side issue, and apiculture still the speciality. You know that I can devote side attention to electricity, and on that subject give my advice to our paid manager and draw my dividends, advise and direct my hired editor, and make my paper pay, but all this time BEES and their product are my main work and line of thought, and wherever you learn that apiculture has become a side issue with me or any one else, you may look for another departure from the business. Our calling is one which is in no fixed groove, and one which will not bear our desertion from all its details. You say what I have many times said, in articles in past bee journals, and which I have not the time to look up now, that we must look to short-cut plans, methods, devices, implements, and you very correctly place first importance on the hive. Most hives are good for bees, but few are fit for *bee-keepers* who hope to produce honey at a profit at present and probable future prices."

(*The next article will appear on January* 26.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office,* 17 *King William Street, Strand, London, W.C." (see* 1*st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1296.] King Frost and rude Boreas still hold sway out of doors. We have had only a partial thaw—Thursday and Friday last. A

few stocks of bees took advantage of the warmer temperature and had a cleansing flight. Those facing south and south-east were the stocks that were on wing. Here we have a point in favour of that position for hives. If the sun shines on the hives, and its beams of light penetrate into the entrance of the hives, it arouses the bees by the potent influence of light and heat; then when the bees are aroused and venture forth into the warm sunshine, this infuses new life into them, and after the airing they return to the hives and cluster invigorated and refreshed. Now, in the hives facing west, or in the shade of higher buildings, not a bee was stirring. Now, having been confined to the hives nearly a month, it seems to me a very reasonable deduction to make, that the bees who have by the help of the sunshine been enabled to take a flight must be in a healthier state than those bees in the shade which have not done so.

Now is the period when odd jobs connected with the apiary may be taken in hand. Alterations of appliances may be made in the long winter evenings. All crates found to have brace combs between the bottom of the sections and the top bars of brood combs should have the bee-space reduced in thickness; or if the growing use of excluder zinc in the production of comb honey is contemplated, Dr. Tinker's plan of using strips of wood and strips of zinc alternating as the excluding honey-board on which to place the section crates is a capital idea. The Doctor's contention is that the bees have a foothold, when climbing through the zinc with their loads of nectar, which the smooth surface of the sheet of zinc alone does not give them. This plan I consider far preferable to the half-bee-space advocated some time back. The bees in this case build brace combs, and close many of the holes in the zinc. Roofs of hives that have become shaky with weather, cracks, faulty boards, or poor workmanship, may be rendered equal to new by covering the same with a sheet of thin zinc, cut large enough to turn under the eaves and be nailed down. This is a job that can be done during the winter evenings. Then, later on, when we get settled dry weather, a coat of paint can be applied. Old hives not in use may be thoroughly cleansed, the packing, if any, may be removed, and the insides thoroughly scraped with a flat piece of steel or odd pieces of glass. Then well work into the wood with a stiff brush a solution of carbolised water—one ounce carbolic acid, one ounce glycerine, mix, then add twelve ounces of water. This solution will be strong enough to destroy any germs that it reaches. Don't forget the cracks in the wood and the carpenter's joints. In these places may lurk the enemy, therefore well work the solution into these places and dislodge the bacilli germs if they are there, and if not the disinfecting fluid may keep them away for a long time. The bee-escape or super-clearer may be started into being with the new year. I can recommend it as a useful article in the apiary. For how to make it *vide* the last volume of the *B. B. J.*, and for the escape use Porter's spring escape, procurable from Mr. Flood, of Donington Road, Reading.

Then the new section crates for trying the "Wells system" must be prepared, or old patterns adapted to the requirements; also the hives may be constructed or converted to meet the wants, not forgetting the perforated wood division-boards, of the system.

Then a word on keeping straw hives dry. Damp, mildew, or rottenness cannot conduce to the health or the wealth of either bees or bee-keepers; therefore I would impress on bee-keepers the necessity of keeping the hives dry, and nothing is so good for this purpose as straw hackles; felt or cocoanut matting is a very good substitute, but not so protective as the hackle.

Our American cousins are still trying to improve their bee-keeping appliances. I notice some one claims the invention of "reversible extractors," the patent dating back to October, 1879. The editor of *Gleanings* was able, by referring to the *British Bee Journal* for October, 1875, four years previously, to give a full and detailed account of Mr. T. W. Cowan's reversible extractor as exhibited at the Crystal Palace Exhibition of Bees and Honey that year. This, of course, would prove the patent of 1879 null and void. Some of the prominent bee-keepers in America vote the "new Cowan reversible extractor" a grand success; it must be gratifying to our esteemed editor to know that he has put the cute Yankee up to a wrinkle, though it is not exactly *new*—at least, this side of the Atlantic.

As an earnest of what our Association is doing and intends doing, I would mention that the Berks B. K. A. has united with the Executive of the Reading University Extension College in their public lecture scheme, and that Professor Cheshire, F.L.S., &c., is coming to lecture in the new Town Hall, Reading, on Monday, February 27th next. I may be able, later on, to give further particulars, when the arrangements are perfected. This move is, I apprehend, in the right direction to spread a knowledge of our Association, its aims and objects. There are still the many bee-keepers to be taught and convinced of the error of the old skep and brimstone practice. After nearly twenty years of journalistic effort and combined teaching by the bee-keepers' associations, we have still a vast amount of work to do before we shall see the honey industry in its proper place in the minor industries, and conducing to the wealth of the individuals engaged in its pursuit, and the wealth of the community as a whole.—W. Woodley, *World's End, Newbury.*

SUGGESTIONS FOR SHOWS IN 1893.

[1297.] With your permission I would venture, for the first time, to make one or two suggestions to secretaries with reference to the shows of 1893. I think it would be well to have at least two open classes for honey—say, one section and one jar—and give one or two medals

in each class, something after the manner of the National Competitions at Reading, Kilmarnock, Portsmouth, and Dumfries. It would take away a something of the selfishness which seems to be implied by the narrow limits to which some of our prize lists are confined. It would, I think, make a wonderful change in the appearance of our shows; and who knows, when Irish, English, and Scotch meet together, what a "union of hearts" might be cemented by "Nature's sweet restorer"—balmy *honey*. I would also suggest that extracted honey should be tested by two, or even three judges, as I can't see how one judge can distinguish the flavour of all the exhibits in a large open competition. I am glad to see that our instructive and esteemed friend, Mr. Woodley, has become a contributor to the *Record*. May he long continue to interest the readers of both journals in apiculture, as we are sure of good, honest, practical advice from his pen.—W. J. A., *Co. Tyrone, Ireland.*

HOW I CAME BY MY BEES.

[1298.] I have read with much interest from time to time the accounts given by your correspondents of how they first started bee-keeping, and have thought that my own story of how I come by my first swarm might add one more to the various experiences recorded. Well, then, on one Sunday morning, in the year 1891, I heard of a stray swarm having settled in the garden of a neighbour, who was absent from home at the time. There was no one to own the bees, and no one whose permission could be asked, so I borrowed a skep and tablecloth from a friend, and hived the swarm all right. After church-time I went to get my prize and bring it home. The son-in-law of the absent occupant of the cottage, however, was then present and declined to allow me to remove the bees. "Then," I replied, "perhaps you will permit me to take away my friend's tablecloth and skep, whether I have the bees or not?" But no, he would "see me hanged first." Not wishing to have any unpleasantness, I offered to pay something for them; no, that wouldn't do! "Shall we sell them and share the proceeds?" said I; but no, *that* wasn't to his mind; he wanted the right owner found, and the swarm given up to him. There was too much unselfish generosity in this great anxiety of his for me to have faith in its sincerity, besides I felt such a fatherly interest in the swarm I had hived that my mind was made up to have those bees if they were really ownerless, and unless they were removed and put under lock and key it would go hard if I did not get them, so I tried a little diplomacy. There was a bee-keeper who lived close by and I called at his place, only to find him absent. But his wife, to whom I related my case, promised to go and claim the swarm for me and offer a trifling sum as compensation for the trouble given. My humble shilling was, however, refused, and I learned that the obstinate "son-in-law," before-mentioned, had offered the swarm (*my swarm*, you know, and moreover, too, hived in my friend's skep!) as a bargain to a man for five shillings, "if he came and fetched them away!" Now, Messrs. Editors, being only a poor mortal, this was more than I could stand; and so, to make a long story short, and save any discussion about "he who takes what isn't his'n," &c., &c., when that man came for his "bargain" *the bees were gone!* Moreover, I may tell readers of the *B. J.*, though the "son-in-law" heard it not, that swarm "made tracks by night" to a location in the very next garden to his, and, under the management of yours truly, did very well in 1891. In 1892 I got a good swarm and cast from them, besides some honey. I also transferred the original stock from the skep to a frame hive, giving them some of the combs, besides seven pounds of honey. After packing them up for winter I found wasps playing havoc with the transferred lot, so I searched and found out three nests close by. I tried three times on successive nights to destroy them with powder, but failed more or less each time. Then I got a half-pint of turps and used it about the nest holes, giving a good dressing all round. Next morning, and ever since, no wasps were seen. Thus ends the true story of my first swarm.—T. V., K.

VINEGAR AS A STING-REMEDY.

[1299.] Mr. A. T. Wilmot (1287, p. 7) appears to go only half-way with me in my previous remarks on the above (1213, p. 432). He says: "I generally found it to almost immediately relieve the acute pain, although I do not think it has any effect as regards the subsequent swelling." With all due respect to Mr. Wilmot, but it *is* the subsequent swelling which I desire, if possible, to *enlarge* upon and emphasise. Perhaps I did not sufficiently do this in my first letter. Bee-keepers, as time rolls on, become "case-hardened," and to them the *pain* arising from the sting of a bee is not worth curing; but even people of experience are liable to swell when stung on certain parts of the face, neck, hands, and wrists, and this almost sudden alteration in one's appearance is, to my mind, the only awkward *feature* presented by the sting of a bee. Truly, no two constitutions are alike; but I have *seen* the effect of vinegar on several people—applied immediately after the receipt of a sting—all with the same result, *i.e., the swelling entirely prevented*, and nothing to be seen with the exception of a little high colour. I know also a country gentleman who has used it to the same purpose, and with the same success, for about twenty years.

Like Mr. Wilmot, stings trouble me very little; but I deemed this a simple hint to many whose pleasure in bee-keeping is marred, not exactly by the fear of being stung, but the dread of wearing the appearance of a "road agent" after a severe mauling.—EDGAR A. FARTHING, *Plymouth, January 9th*, 1893.

THE NEW BEE BOOK.

[1300.] *Bees for Pleasure and Profit.* By G. Gordon Samson.—This little handbook is very much *en evidence*, with its bright crimson and black cover, on railway bookstalls, and were books on bee-keeping few or scarce I should say it would supply a want. So far as I am able to judge we have had, and still have, far too many books on bees, all telling the same old story, served up with the peculiar sauce which distinguishes its author. Some bear evidence of being written by thorough bee-masters, whilst others, of which this one is an example, strike one as being chiefly compilations from the modern works already before the bee-keeping public. Mr. Samson speaks in flattering terms of *Modern Bee-keeping, Bee-keepers' Guide-book*, the *B. B. J.*, &c., but does not recommend the beginner to read even Langstroth till he has thoroughly mastered Cook and Simmins, in addition to the above. This is requiring too much of the novice. Were it necessary to thoroughly criticise the work in an adverse fashion, ample material is at hand, *e.g.*, on first page, third line, it is said *Apis mellifica* is indigenous to this country; again, it is inferred no young bees accompany a swarm, and is stated that in queenless hives the bees often live twelve months. Further still, that queens mated with drones raised in worker cells must necessarily give a progeny very small and inferior. The absence of a little knowledge on elementary botany has led the author to make some quite astounding statements. For example, "It is owing to this wonderful provision of nature" (*i.e.*, bees only gathering pollen from not more than one kind of flower in a single journey) "that we do not have different species of flowers crossed with one another." In his preface we are told that "in very fine seasons fruit will doubtless set very well without the intervention of bees . . . . but in cold, wet seasons the aid of bees is unquestionably essential . . . . the pollen is more inclined to adhere to the blossoms than in fine, warm weather." None of this is so. Altogether, if this "still one more book about bees" were the first of its kind it would be most welcome; as it is, it gives the general bee-keeper little or no correct information that is not already in his hands; at least, this is (for what it is worth) the opinion of—X-Tractor.

FRENCH *VERSUS* ENGLISH METHODS.

[1301.] In your issue of January 5th you treat you readers to a very interesting letter from L. Fourcassié, Albi, France. I fail, however, to see the economy of French bee-keeping in the sentence, "At Easter I examine all my hives, and put in all the frames; then in September I get in the harvest of honey, and prepare my bees for wintering. We leave the bees to renew their queens of themselves." I take it, Messrs. Editors, that the French bee-master, losing the benefit of his swarms, will find a very weak hive and not much honey on his September visit to his hives. If L. Fourcassié should see this query, I should be glad if he would show wherein the French method is a more excellent way than the English. — Constant Reader, *Sheffield.*

STANDARD HONEY BOTTLES.

[1302.] When I introduced this subject (No. 1168) in your issue of October 6th, 1892, little did I think that it would assume such proportions, and that we should have such a long and interesting correspondence, or that it would be noticed and taken up by our leading bee-men, much less be the subject of the editors' notes. I have been looking through the whole of the letters which have appeared, and I think, on the whole, the matter has been taken up in a reasonable manner. Of course, we cannot all think alike, or act alike, either in this or any oth r matter, and I cannot see the force of the editors' remarks in "Useful Hints," December 8th, where he says, "The bee-keeper who gets a good price for his honey should be honest enough to give the buyer a full sixteen-ounce bottle for his money, while the less fortunate one, who deals with shop-keepers, is no less honest in putting up his produce in 'reputed pound' jars, and selling it at per dozen jars." "That is the rub," and perhaps this is the *crux* of the whole question: if bottles and honey are sold at so much a dozen and not per pound, then it may be all right; but I think it is unfair to the public (who in this district, at any rate, look upon a bottle of honey as a pound) to receive anything short, and just for a little extra profit to only give fourteen ounces. And, with "Bee-Kay," (1259, p. 482) I think we should maintain the credit of bee-keepers at large, and be above suspicion even in this small matter.

One of your correspondents, A. P. Wilmot (1281, p. 509), hopes that total abstinence does not often lead to such ignorance as not to know the contents of a wine bottle. However much he may regret my ignorance on this point, I will frankly and freely say I do not, and I think if he had had my experience he would say the same, and not be at all anxious to know the contents, either measure or otherwise, of a wine bottle. I am more than pleased with the discussion, and hope that it will have well served its purpose, and that the B. B. K. A. will at no distant date take the matter up, and, as our friend "X-Tractor" from the "Hut" says in your issue of January 12th, 1893, fix on an all-round best bottle for the bee-keeper.

Now, sirs, for a personal matter. A number of my friends here who know my *nom de plume* say I ought to sign my own name, and not write under an assumed one. I do not think so, at any rate for the present, but I will say that I am an official of the Notts B. K. A., and my home and apiary as the crow flies are not

more than half a mile from—HEMLOCK STONE, *January 14th*, 1883.

[The above subject has now been so thoroughly discussed that its future consideration may, we think, be left to the Committee of the B.B.K.A., if that body decides to make any recommendation as to a standard honey jar. After next week we therefore propose to close the correspondence. In the meantime, readers who have not yet contributed their views on the subject, and desire to do so, will please take note of this.—EDS.]

SYRUP!

[1303.] "Hello, not feeding! How's this?" How often have these ejaculations been made when looking at our bottle feeders after they have been on the hives a few days. Well, it's just this, the syrup granulates upon the holes of the feeder cap, and the bees lick and lick, but that syrup just granulates faster than the bees lick, and so the holes get stopped up, and—well, the bees don't get none nohow. I hope I don't intrude, but I *should* just like to point out an error (anyway I think so) in syrup-making. Books, *ad infinitum*, authorities *manibus pedibusque*, editors *in sæcula sæculorum*, have advised the *boiling* of syrup. Now that's just the point. Why boil it?

I take it that sugar is a cooked food—in fact, very much cooked. Why cook it more? Water is not cooked when the bees take it from the ponds or streams into the hive. Again, why cook it? Well, now, we (that's me) have just about settled that the cooking (boiling) is no good, and so should like all to try the non-cooking process just in this way. We get our sugar and our water in the same proportions as usually advised. Spring (we are getting nearer this epoch, from the amount of snow and ice seen from my window) syrup—1 pound sugar to ¾ pint water; and autumn syrup—1 pound sugar to ½ pint water, and put it into the saucepan or boiler. Now, only allow it to remain on the fire until the crystals of sugar are dissolved. Don't boil it. Never mind the vinegar, cream of tartar, or tartaric acid. You just try this syrup. You'll never have granulation or stopping up of holes in feeder. You can't make this syrup granulate, no matter how hard you try. Now, mind, the only precaution to take is, *not* to boil it or add anything to it—of course, except in the case of medicated syrup.

Now, I expect I shall have any amount of virtuous indignation showered upon me for thus attacking one of the institutions of the apicultural world. I must perforce stand it; but, only in justice for poor me, ask any one to try it.

For three seasons have I fed my bees on syrup made thus, and have yet to see bad results from it; any way, there's not a single colony with dysentery or dead (early days, you'll say, Messrs. Editors) yet in my apiary, and granulation (that bugbear of feeding) is unknown.—W. B. WEBSTER.

WEATHER REPORT.

BAGNALSTOWN, IRELAND.

December, 1892.

Rainfall		1·67 in.
No. of days on which rain fell		18
Greatest fall in 24 hrs., 1st		·42 „
Maximum temp., 19th		54°
Mean max. „		42·7°
Minimum „	27th and 28th	23°
Mean min. „		34·7
Min. ground „	27th and 28th	11°
Frosty nights		22
Prevailing winds		S.E. & S.W.

JOHN HENDERSON.

Echoes from the Hives.

Nice (*Alpes-Maritimes*), *January 9th*.—Even the bees seem to be enjoying the novelty in these parts of a short cold spell—at least I am—though we have only had one day (January 3rd) which could be called really cold, the thermometer registering 35° Fahr., and bees were in consequence kept indoors; but on every other day they were on the wing. To-day even the Palestines were flying gaily about noon. The latter are, I am sorry to say, only in poor condition at the present time in consequence of my arriving here too late last year to push on breeding, and so get up the strength of population before going into winter quarters. Each stock now only covers three or four frames. The Algerians are on five and six frames, so they are a little more vigorous. Taking my various races of bees altogether, it would seem as if Cyprian, Algerian, Italian, or French bees cluster more closely together during cold weather than do my poor Palestines; the latter resemble the fellaheen of their country. They cannot stand a chill or cold snap; moreover, they catter themselves over the frames, never dreaming of a sudden fall in temperature, such as will make ice in a few hours. On one cold day last month (December 11th) I took the internal temperature of several stocks by inserting the ball of thermometer in the centre of clusters. Palestines, Cyprians, and Algerians of equal strength by this test registered 91·40°. On another cold day (December 1st), with the thermometer registering 42·80° in the shade, a stock of Palestines covering only four frames showed a temperature of 66·20° close beside the bees, while in centre of cluster 78·80° was registered and at the extreme end of the hive furthest away from the bees the temperature was the same as the outside, viz., 42·80°. It is a difficult matter to pass the ball of the thermometer down into the cluster of bees; the poor creatures, nearly torpid with the cold, do not at all relish the disturbance. We, too, read of the severe cold all over Europe, and have had just enough of it for our liking.—PH. J. BALDENSPERGER.

A CHINAMAN'S BEE-KEEPING.

Mister Newsplaper Man,—Me long time thinkee send you of my sugar-flies—Melican man call him "bee," eh?

Well, in flirst place, you sabbe I come from China where I was born, and work in lice fields, and thlee year washee clothes in Slan Flanclisco. Bimeby we laise legitables close by near Oakland. One day heep lot sugar-fly come my house and go in tea-box. My plartner, Jim, he no likee—too muchee bite. I likee sugar-fly heep muchee—him sugar-fly belly nice, heep sweet.

I fixee tea-box in sun and watchee honey-fly go and come. Thlee week him heep fly out—me thinkee allee my sugar-fly go away. What for? Me no sabbe. Me belly good to him. No hurtee him.

Melican man come and he say, "Lung, your bees swarm belly good. Bimeby you heep big bee-man; all same one mandarin. You catch box when bee go on tlee, and put him in box, and you have two swarms."

So me heep glad. Me get belly rich. Plenty sugar-fly—heep sugar—muchee money! Allee samee me go back blimeby to China, heep big man. Me all-a-samee big Mogul—me thlink you call him "big-bug"—heep "swell."

Sugar-fly catchee on chelly tlee and all quiet. I takee tea-box and call my plartner—him samee Jim. I say, "Jim, you hold box, so." I show him—hold him over his head so that sugar-fly fall into him box when I shakee tlee.

Jim, he belly good man. He my wife's cousin—my wife in China. Jim hold box way up high. Pletty soon I shake tlee, and honey-fly fall down—whew! him go more on Jim than in blox. Jim he jump heep high, and yell—yes, he do yell! all samee Melican man say, you sabbee. That man he lun, and honey-fly get on horsee. Horsee klick likee blazes, and tear allee over glarden. Lose too muchee money—onion allee spoiled. Cabbage bloke down. Garlic trampee on—belly bad, belly bad muss. Horsee muchee scared.

Melican man catchee horsee. Me give him four bittee. Jim come back and me say, "Jim, you heep no good, let blox fall. Horsee lun way and bloke too muchee glarden sass."

Jim, he say, "Me no care. Sugar-fly heep bite. Him sting me evlywhere."

All-a-samee me get sugar-fly in blox, and have two blox flies.

Two more months me tell Jim me likee sugar. Jim say, "All light, you catchee him."

Me say, no sabbee muchee. Me tly to-morrow.

To-morrow one Ilishman come long—him Ilishman own heep land. Him too smart. He say, "John, what you do to your bees?"

Me no likee Ilishman, and me say, "None your blizness." But Ilishman no go way. He laughee me, and he say, "John, you bee bite heep muchee. You no sabbe fix him. You like me show you?"

Me say, "All lite."

So Mr. Mulphley take blox into my bedroom (he say Dr. Piller—one big honey-fly man—talkee allee samee belly good place to fix bee, cause makee bed heep warm).

Well, Mr. Mulphley blake bloard off blox, and heep fly come out and bluzz evlywhere. Him get into me shoes and up my—what you call him—pants? Him also get heep into bed. Mr. Mulphley take four or five pieces of sugar and put on pan; then fix blox allee lite and put him outside, near the other blox.

Mr. Mulphley belly good. Me give him lot onions and one blook, me thinkee come from Mr. Loot, about chewing tobacco.

Pletty soon Mr. Mulphley go way, and me takee sugar and eat him, tlee, four pounds. Too muchee sugar no good! Blime by me sick—sick stomachee.

Jim come home, find me on floor, hap die. He heep scared. He catchee gin and give me.

Me say, "No, Jim; me hap die flirst. Me no more dlinkee whiskey. Mr. Loot (him belly good man) he say 'whiskey belly bad for man's belly.' Mr. Loot heep sabbee."

Jim say, "Wha' for you care Mr. Loot and Dr. Piller. They heep sabbe laise bee, but no sabbe you belly. Me no want you hap die. Me like you to-mollow plow corn. So you dlink gin!"

I close me eyes, open my mouth, and say, "Here's to your health, Mr. Loot. Me heep likee get well quickee."

You bet me get well quickee. Mr. Mulphley say I catchee colickee—eat heep sugar.

Night come, Jim he go bed flirst. Sloon me thlinkee him clazy. Me go bed, too. Soon me thlinkee me in Melican man's hot place. Me get bite in feet, in arms, on head—heep lot evlywhere. Jim, he just clazy—him sugar-fly in bed bitee him likee—what you say for belly good cussword? No sleep this night. Jim he say he no more stay with me if me keep sugar-fly.

Me tell him "All lite," me no care; me likee sugar-fly allee samee him my child. Me keep him, and one, two year me have heep lot."

Jim go away next day, and me lun lanch allee samee Lambler—keep batch'lor's hall and heep bee.

Sunday me no work on lanch, so me go Slunday-school, and talk teacher 'bout sugar-fly. Him teacher one lady, and say he leed Mr. Loot's *A B C Book on Sugar-fly*. Me likee hear him teachee, talk heep lot. Him tell me 'bout God, but me forget; him talkee 'bout sugar-fly, me no forget.

Me go home and fix my bee for winter quarters—me think that's what Mr. Loot call him. Mr. Mulphley say Mr. Loot no sabbe—California heep warm—fly no hap die. Mr. lite, Mr. Mulphley lite. How me know? Me flix fly likee this: Mr. Loot long, and me flix him allee samee he say my sugar-fly die; Mr. Mulphley long, and me follow him, fly die too. So me flix him one blox likee Mr. Mulphley say. You sabbe?

Winter go way me look at sugar-fly. One

hap die—him allee samee flixed like Mr. Loot say; the other belly fine—him heep stlong, and sting me one eye—me one eye—me no care muchee, but heep glad him live.

Next time me tell you what me do next year. What you thlinkee me as a sugar-fly-keeper? You likee hear flom me—me give you lot news. Me likee to hear 'bout Dr. Piller, Mr. Doonothing, Mr. Loot, Plofessor Clook, Mr. Gleen, Dr. Tlinker, and Hutchlinslon, Slecor, Heddlon, Dlibbern, Flance, Lallabee, Dlemalee, and other big sugar-fly writers. Me hopee they will be glad to hear flom me, and enjoy me experience as I enjoy theirs.—WONG LUNG, *Slan Flanclisco, Claliflornia.—Am. Bee Journal.*

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. JOHNSON (Wolverhampton).—*Bee Candy.*—Please refer to *B. J.* for November 26, 1891, where full instructions are given for making candy; or the number will be sent post free for 1½*d.*

British Bee Journal and Bee-keepers' Record.

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Special Prepaid Advertisements.

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FOR SALE.—Pure English (Granulated Clover) Honey, in 60-lb Tins, at 7*d.* per lb. Address T. HOLLIDAY, The Apiary, Astbury, Congleton, Cheshire. 3

WANTED.—Will any of our Readers supply us with the present addresses of S. S. Goldsmith, Parkstone, Dorset, and A. Green, Selston? Address EDITOR, *B. B. J.*, 17 King William Street, Strand, London, W.C.

FOR SALE.—306 lbs. Pure Extracted Honey, in large or small quantities. Address Miss SAVORY, Sparkham, Attlebridge, Norwich. 2

EXTRACTOR Wanted.—"Raynor" preferred. Also Uncapping Knife. Deposit System. Address JOHN C. PAGE, 4 Hydeside Villas, Lower Edmonton, London.

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THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

OFFICE:

17 KING WILLIAM STREET, STRAND, LONDON, W.C.

The following are the Rules under which we are prepared to receive Sums of Money on Deposit from persons buying and selling goods.

In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER," *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee-appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 553. Vol. XXI. N.S. 161.] JANUARY 26, 1893. [*Published Weekly.*

Editorial, Notices, &c.

THE SHOW OF HONEY FOR CHICAGO.

COMPETITION FOR PRIZES.

The show of honey intended for the World's Fair at Chicago, and competition for prizes offered by the British Bee-keepers' Association took place on Wednesday, January 18th, at 17 King William Street, Strand, W.C., the Exhibits being staged in the same building and the room immediately below the offices of this *Journal*. Apart from the fact that the display was quite a unique event in the annals of bee-keeping —the like of which will probably never again occur—the opinion of those who availed themselves of the public view on the 18th and following day was, we think, entirely unanimous as to the unusual excellence of the honey staged. Referring to Class A, for extracted honey in liquid form—of course the collection was not nearly so extensive as is sometimes seen at our most important shows, but for quality, we doubt if ever so large a percentage of first-class samples of honey was ever staged alongside each other on a single show-table before. With samples of such nearly equal excellence, the task of adjudicating was rendered not a little difficult and onerous, the judges being occupied for nearly three hours in going through the two classes, so nicely were the points balanced. We can safely affirm that neither time nor pains were spared in arriving at a right decision, and it may be some satisfaction to those who only get a "commend" instead of a prize, when we say that—excepting the sample which took first honours—so nearly equal were most of the others that a very slight advantage indeed sufficed to turn the scale.

When the names of the successful competitors were announced it was seen that several prominent winners at shows last season failed to carry off highest honours. It is not easy to suppose that honey, like poultry, can be "over-shown" but certainly a few samples were wanting in qualities which the produce of the same bee-keepers possessed in the height of the showing season of 1892. The falling off was not great but it was there, and we were not a little surprised to see only "commended" attached to some exhibits without the "high" which just marks the difference between best and "next best." There was no mistake, however, about Mr. Baxter's Blairgowrie honey, which got first prize. And yet it owed its success to what might be called a stroke of good fortune. Almost wholly clover honey it had the luck to possess just that slight flavouring of heather which, without spoiling its colour, gave to it a delicious flavour and aroma such as none of the others possessed in an equal degree. The second prize went to Yorkshire and third to Shropshire, both being exceedingly good honeys, but the difference in quality between them and the "highly commended" ones was very slight.

In Class B, for granulated honey, something over 380 pounds was staged in competition, most of the "not-for-competition" honey being granulated. In this class were also included so many samples of nearly equal excellence that it would be difficult to particularise. With very few exceptions it was all good, and will do credit to the honey sources of the mother-country, wherever it is consumed. The three prizes for granulated honey went to Oxford, Essex, and Middlesex, in the order named.

Until the various exhibits are finally labelled for dispatching to Chicago we are unable to classify the whole of the successful counties in which the honey was gathered, because a few of the samples were not the produce of the exhibitors' own bees. Later on we may again refer to the subject, in order to get some idea of which districts did best in honey last year.

The idea, however, of sending an exhibit

of British honey to Chicago has been successfully realised, so far as it has gone, and we are sure that the personal gratification of those who took the matter up will be shared by our bee-keepers at large. It would have been a source of deep regret if it had failed, and the part taken by the *B. J.* and *Record* in promoting the success of the undertaking has been so well seconded by the readers of our journals that we are sure the executive of the British Bee-keepers' Association—to whom the credit is mainly and primarily due—will appreciate what has been done by British bee-keepers to make the affair a complete success.

It only now remains to get the exhibit safely across the Atlantic and well staged on the other side, and, as we may be sure that the interest of our readers will be continued till these tasks are got through, they will be duly informed of the fact when the work is really ended.

The following gentlemen were appointed judges :—The Rev. R. Errington, Major Fair, and Messrs. T. W. Cowan, J. M. Hooker, and W. Broughton Carr. Mr. Cowan, however, was unable to officiate owing to indisposition.

The following is the list of awards :—

CLASS A.

For the Best Sample of Liquid Extracted Honey.

First Prize.—John Baxter, Ashbank, Blairgowrie, N.B.

Second Prize.—W. Dixon, Leeds, Yorkshire.

Third Prize.—J. Carver, Wellington, Shropshire.

Highly Commended.—G. Dunkley, R. A. Grimshaw, E. Longhurst, J. D. McNally, W. H. Seymour.

Commended.—C. J. Baxter, F. H. Brenes, W. Debnam, R. Dutton, Rev. R. M. Lamb, W. Loveday, C. R. Piggott, W. Woodley, W. H. Woods.

CLASS B.

For the Best Sample of Granulated Extracted Honey.

First Prize.—J. Perry, Banbury, Oxford.

Second Prize.—Mrs. Williams, Bowers Gifford, Essex.

Third Prize.—A. W. Harrison, Potters Bar, Middlesex.

Highly Commended.—J. G. Cherry, E. Basley, J. Hall, W. H. Matthews, F. Wooldridge, W. H. Woods, J. Palmer, T. F. Leadbitter.

Commended.—W. Hawkes, H. O. Huntly, W. Winterton, R. J. Glew, H. Wood, W. W Pryor, J. D. McNally, T. Sells, W. H. Seymour

MAKING THE MOST OF BEE-KEEPING.

(*Continued from page* 24.)

The third article in the series is from the pen of Dr. C. C. Miller, of Marengo, Illinois, who says :—

"When I first read your leader, Mr. Editor, I understood you to say that you wanted to be told what each one considered the best article he had ever written. Then I began thinking over what I had written. 'Legislation for Bee-keepers?' No, that wasn't good, for it was written in advance of public opinion. 'Feeders?' No, for I tried to tell an editor about some of the advantages of the Miller feeder, and he told me that it had the disadvantage of needing a cover in addition to the regular hive-cover, and some other things that didn't belong to the Miller feeder at all, showing that I couldn't write on that subject so as to be understood by one of the brightest men. Then I thought over other things, and began to be all in a muddle, when, on reading a little farther, I found you didn't mean anything of the kind. Instead, thereof, you want the very best advice that can be given to bee-keepers.

"As I am to 'write as though it were the last article,' and to give the very best advice I can, I should say, first, foremost, and above all, be a through and through Christian man or woman, and then do all the good you can in whatever line opens up to you. Don't make the serious mistake of supposing that, if some other opportunity were given you, that you could do more good; but settle it finally that you are one of the fortunate ones that have struck just the right place to fit you, and be very happy over it.

"While doing that, it is quite important that you should be doing something that may keep the wolf from the door. I understand that you are a bee-keeper, but am somewhat, or rather entirely, in the dark as to particulars, and all I know further is, that you want some advice. Striking at random, then, I will say, if you entered bee-keeping solely for the money that's in it, without any liking for the business, get out of it just as quick as you can. As you are so often told, there may be good seasons come that will make up for the bad ones. Yes, and there *may be* a continuance of the bad ones. But suppose good ones come, and the next twenty years shall average just the same as the last twenty, then I think you will be told, by any intelligent bee-keeper familiar with the facts, that, if the same amount of zeal, energy, and brains that have been expended in bee-keeping in the last twenty years had been devoted to almost any other line of business, or had been divided up among all other lines of business, the owners of the energy and brains would have had more money in their pockets.

"So, if money is your god, get out of bee-keeping. But if you set the right estimate on the value of health and happiness, and have a

taste for bee-keeping, then it may be that, in caring for the busy workers, you may find a richer reward than in some other business that would put more money in your pocket.

"The editor gives the general advice that you must lessen the cost of production. Good advice, providing the price you get is not lowered in like proportion. Even then, I should favour the lessening of cost; for if it doesn't do the producer any good, it will the consumer. But do all you can to keep prices from being pulled down by false representations or false impressions getting among consumers. And I have my fears as to the outcome, when, in our own ranks, propositions are made that may be construed by the newsmonger to mean that the honey of the present day is not the honey of the past.

"But, now, as to keeping down expenses. To be of any value in that direction, advice must be, not general, but specific. I might give a good many items, by saying clip your queens, and save the work of chasing after swarms; have top bars seven-eighths of an inch thick with quarter of an inch space between sections and top bars, thus saving the muss and trouble of burr-combs, as well as the expense of honey-boards, and so on. But I think I'll confine myself to one line that I am afraid will be neglected by others.

"To put it in a few words, don't take all the profit out of the business by making experiments. Experimenting has cost me hundreds of dollars, and I'm sure I'm not alone in that. But are we to have no experiments? Surely, but for the spirit of experiment, the science and art of bee-keeping would not hold the advanced ground it occupies to-day. So we must have the experiments, but they ought not to cost so much. How shall expense of experiments be kept down? For one thing, make them on a smaller scale. We lie awake nights thinking over some new-fangled notion, and we think it all out, sanguine that it will be a success. But past experience tells us that it is a low estimate to say that, in nine cases out of ten, the old is better than the new. Yet, the very next experiment you make, you will feel so sure that *this time* you are on the right track that, instead of trying your experiment on one or two colonies, you will make every colony in the apiary suffer. So it will keep down expenses if we experiment on a smaller scale.

"Now, I want to make a plea for doing away entirely with nine-tenths of the experimentation—yes, ninety-nine one-hundredths of it, and yet, at the same time, have fuller, fairer, and more satisfactory and conclusive experiments. You will understand in a word what I mean when I say that, in every state, there should be experimental stations for bee-keepers, just as there are now for farmers. The Hatch Act gives to each state $15,000 to be used in aid of agriculture, and if bee-keepers will unite to ask for it, and persist in the asking, I see no reason why a reasonable share may not be devoted to them. The State Society of Illinois has set the example by asking an appropriation, and naming our good friend, James A. Green, as the man to use the money. They may get what they ask for, and they may not. But they are not likely to get it without asking, and if they fail to get what they ask for now, they are more likely to get it next time, because of the past asking. There will be a gain if the bee-keepers of each state put in their petitions. The very fact that other states are asking the same thing would help the Illinois men to gain their point. And then the fact that Illinois had won, would help bee-keepers of other states to win.

"Let me urge, then, that every state do its duty in this regard. If the state of Georgia gains part of the appropriation and uses it successfully in experiments, it will help the bee-keeper of Illinois to bring down expenses. Each state will help all the others. Bee-keepers, don't be too modest. Ask, and keep asking for your rights."

(*Conclusion of the series next week.*)

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The Annual General Meeting of this Association was held on Saturday, January 14th, at the Midland Road Coffee Tavern, Derby, the Rev. J. Wadham, of Walton-on-Thames, presiding. The attendance was much better than other years, although hardly as good as had been anticipated. The minutes of the previous meeting having been read and confirmed, the report for the past year was read. From this it appeared that Mr. W. Handby (expert, northern division) had visited 126 members and examined 448 hives in the spring, stocks being then in a very good and forward condition. In the autumn, also, stocks were in fair condition, but many were short of food. Mr. J. Rowland (expert, southern division) visited 123 members and examined 264 hives, which he found in a backward condition. The balance-sheet showed a slight deficit, but, considering the increased benefit members have derived during the past year from the fact that a free copy of the *Bee-keepers' Record* has been supplied post free to members monthly, and that cottager members have had the same on payment of an additional shilling, the general result was considered highly satisfactory. The last annual exhibition was also regarded as a decided success. The report and balance-sheet were unanimously adopted, and the usual votes of thanks accorded to the officials of the Association for their past services. His Grace the Duke of Devonshire was re-elected President, and the Vice-Presidents were re-elected, with one or two additions. J. L. P. Barber, Esq., J.P., C.C., was chosen Chairman, and Mr. R. Giles, Vice-Chairman; Mr. Copestake, Treasurer; and Mr. W. T. Atkins, Secretary.

The business being dealt with, the members and friends sat down to an excellent tea, provided by the Coffee House Company. A prize drawing of seven prizes for those members

present and whose subscriptions for the current year had been paid, next caused much interest; after which Mr. C. Wootton (second-class expert) gave a lecture on "Successful Wintering," Mr. Thompson ably presiding. As successful wintering is the key-note to successful bee-keeping, it is easily understood that the subject created great interest, Mr. Wootton touching on several points that were not generally known, inviting criticism and a free discussion, Messrs. Thompson, Coxon, and Hill taking part in the same; it proved to be a very interesting and edifying meeting. A friendly chat one with another terminated a very pleasant and sociable time.

The arrangements were made and carried out by Messrs. W. Coxon, C. Wootton, and H. Hill.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, 'British Bee Journal' *Office,* 17 *King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

ARE BEES DEAF?

[1304.] "The Heathen" (1289, p. 14) tempts me, by a personal allusion, to write again on this much-vexed question, always an interesting one, but one in which we seem to get "no forrarder."

I should first premise that your correspondent has not chosen quite a happy *nom de plume*. Webster tells us a Heathen may be a pagan; idolater; an irreligious, unthinking person. Now his remarks prove him anything rather than unthinking. Stay! may he not be an Anglo-Saxon hædhen, originally a dweller on a heath?

I would refer any one desirous of getting the very latest boiled-down ideas on the hearing of bees to the chapter on the subject in Mr. Cowan's book, *The Honey Bee*, and if "The Heathen" will do me the honour of reading a short article on "Do Bees Hear?" in *B.B.J.* April 7th 1887, he will get my then views on the matter, views which I see no reason to modify after the intervening six years. Permit me, however, to recapitulate a little. "Bees possess (1) vocal organs; and (2) organs justly supposed to be aural, because of their peculiar anatomical construction." I argue that if *we* have our five senses, all of which we use, and the bee has quite similar mechanism to our own, which we admit it uses in four out of the five cases, is there not *prima facie* evidence that it uses the fifth, especially as it uses its correlative, the vocal organs?

We will just deal with the common sense of the matter and then with matters of fact.

Nearly every animal which utters sounds does so with a purpose (to me nothing is purposeless, only we are not always able to read it), viz., that of desiring to communicate with others of its kind, or else it *instinctively* utters (without the least thought of signalling) cries of pleasure, pain, surprise, alarm, grief, &c., and these being heard by others of its own—yes and totally different—species, the danger becomes apparent and confirmed by bringing into play other organs of sense. Thus, there is the vocal sound, which without its corresponding hearing would be a mocking satire on the wisdom and work of the Great Creator; there is the result following the utterance *proving* the hearing. We, as well as the bee, have voice organs; the bee, as well as we, has the *mechanism* for hearing, it has telephonic diaphragms or films stretched across hollows on the antennæ; touching the film is a nerve-end which carries (or may carry) the vibrations to the nerve-receiving centre. Surely, as I say, if you have a chronometer before your eyes, its use as a time-keeper follows as a logical sequence. We prove its (the bee's) taste, smell, touch, and sight, and I think we prove its hearing. Just as a great atheist, when viewing the wondrous mechanism of the earth and heavens, exclaimed that "if there were no God it would be necessary to create one to work the intricate whole," so in my little way I follow out the idea by saying that in the bee the apparatus is so apparently well suited for the purpose of hearing, so intricately beautiful and fitted up as a hearing organ, that the bee cannot help hearing *whether it be deaf or no!* (Hibernicism!)

True, it will only respond to sounds suitable to such small sensitive structures as are the so-called auditory hollows. Sufficient for its microscopic ears are microphonic tones. It has been said that *we* do not visibly respond to the loud, thundery tones of the storm, the waves, and the waterfall; neither does the bee to the guns and noisy instruments of men.

Now, sound and hearing are simply the making of and feeling by specialised structures the vibrations of media between objects which are apart. A deaf man may hear the vibrations struck on a rod held between the teeth; a bee will hear the vibration of a finger-tap on a flight-board. It will, also, to our eyesight, give evidence of hearing the sound of swarming in a neighbouring hive, and will also, without rhyme or reason, *hear* the signal to ascend when a few bees are congregated in a part of the bee-tent during driving. And who can deny the peculiar sound (heard even by us) uttered by a few bees who find the darkness of the new hive when a swarm is thrown down, and *at once* all set to march upwards? The humming sounds of pleasure and contentment, the whizzing, stinging notes of anger—these may be heard and

read by our comparatively coarse comprehension. Again, it is very probable that bees avoid each other when flying, as they do most rapidly, by the exercise of the hearing faculty. We thus get a reason for something hitherto inexplicable, viz., What is the use of the humming made by bees during flight? Grant them the use of the hearing *apparatus* they undoubtedly possess, and the varying noises made by them inside and outside the hive become purposeful and admirable.

To sum up:—(*a*) Bees have the nerve *mechanism* along with most animals for—

1. Seeing.
2. Touching.
3. Hearing.
4. Smelling.
5. Tasting.

(*b*) They *need to* see, touch, hear, smell, and taste.

(*c*) We can prove that they *do* see, touch, smell, and taste; and, as we have no evidence that they do *not* hear each other's tones, but a fair amount of evidence that they do, I consider the case "proven."—R. A. H. GRIMSHAW.

EXPERIENCES OF A HUNTS BEE-KEEPER IN 1892.

[1305.] I promised to let you know how I have progressed in the bee line with regard to its effect on fruit-culture, &c. I am happy to say that I got both fruit and honey in abundance. I mean bush fruit. But the wind did for the damsons and plums. We had a very heavy gale just when the trees were in bloom, which brought all the pollen dust on to the ground. You could see it, and even *feel* it; and though I have been in the fruit-growing line all my life, I have never before experienced anything like this fall of pollen. I was going over my garden when the wind was at its height, when I began sneezing; said I to myself, "Influenza again!" but I was mistaken, for when I came to examine myself, I found the sneezing was caused by the pollen grains from the blossoms. I was certain then that our little friends, the bees, would go short of a treat, ditto your humble servant, in the shape of a sadly reduced quantity of plums. But perhaps it was for the best, as the bees had a rare treat on the gooseberry bushes. The result in the form of a crop was that I gathered 7 tons 14 cwt. of berries (splendid stuff) off $2\frac{1}{2}$ acres. I might say that the trees are about nine years old, and just in their prime. After that, who would not keep bees? For I consider that, if I had not obtained any honey at all from my bees, they repaid me well for the little attention they required. But they paid me, independently of the good effect they worked on my crop; for I got from them about 4 cwt. of honey in the way of sections and run honey, and made 3*l.* 8*s.* per cwt. of the run and 7*s.* 6*d.* per dozen of the sections, independent of prizes I obtained at various flower shows. Moreover, I increased my stock, which in the spring numbered twenty-eight, to forty, which I hope are all well, despite the severe weather we have been experiencing, the sharpest night of which was December 28th, when my thermometer registered 22° of frost.

Whoever has seen a beehive fourteen feet long? I have, and have taken the honey from one this last autumn, when I went for a holiday into Norfolk. The house in which I was staying was an old-fashioned one (farmhouse) about 200 years old, and three stories high. It was built of oak, with plaster and brick gables. At one end, about twelve feet from the ground, there was a large beam which ran from one side of the house to the other; oak studs, nine inches deep and eleven inches apart, were morticed in the beam; laths were then nailed across and plastered over (I might add these studs were about fourteen feet long, and morticed in another beam also), so there were spaces of 11 in. × 9 in. × 14 ft. In one of these bees were lodged. No one knew how they came there. An old villager could remember them having been there for thirty years. The entrance to this hive was where a little piece of plaster had come off close to the beam, and in and out of this hole they kept going, as though they were doing piecework. As the house was undergoing repairs, the builder left the bees till last. Naturally so, as one or two of the workmen had been rather badly stung. I determined to try and drive them. So I got a ladder, and went to the top of the beam and pulled off a little bit of plaster, and there, behold! were four combs, stretching from top to bottom—pure white combs, too; and what puzzled me was that the honey was not granulated, though some of it must have been there for thirty years. (Perhaps Messrs. Editors will kindly explain this fact.) Well, I fixed a box at the top, and tried to drive them, but not a bee would enter the box. So I drove over to Norwich, and obtained some chloroform, put a little of it on a sponge, and at nightfall made the entrance a little larger and inserted the sponge; but I am sorry to say the dose was too strong, for, getting up early next morning to observe result, I found most of the poor little things dead. However, I got about 2 cwt. of comb and honey from that strange hive.

I remember another curious instance of what bees will do. A bee-keeping friend, living in Cambridgeshire, is very nervous when dealing with the little "busies," so he wrote saying that if I would drive six skeps for him, I should have the bees for my trouble. As it was only about eight miles distant from Somersham, I went. The skeps in question were set on various boxes, which served the purpose of stands. I had driven three, but when I came to the fourth I found the skep empty, not a bee in it. When told of this my friend declared there were bees either in the skep or in the box below. On examination sure enough they were found in the latter, an old "Hudson's Soap" box. When I turned this, there *was* a sight! for it was full of comb and honey, in weight about one hundredweight—honey gathered from buck-

wheat. The bees had propolised the earth under the box, and two unfortunate snails, which had ventured in, were in like manner propolised to the earth. Then the bees could enter everywhere except at the corner of the box, which stood on bricks. This fact caused me to ask myself the question, "Do we give our bees enough entrance-room?" I invite information on this point. Here was a case in which a hive is made of wood only a quarter-inch thick, with entrance all round an inch high. The swarm came off on the 24th of May, had made their own comb, their own floor, and gathered nearly one hundredweight of honey. It is remarkable what some stocks will do unaided or helped in any way, while others, do what you will for them, give no return.

Here is also another experience. One of our old Fen farmers sent to me to "take up" his bees, as they term it; but, as it rained on the day I had appointed to go, I went on the following one, and was only just in time, for the old gentleman was digging the usual holes in which to sulphur them. I stopped him, telling him how cruel it was to do so. In reply he said, "Hang me if I don't think ye're right, but 'ow am I to git th' 'unny if I doan't brimstun 'em?" I explained the process of driving, with practical illustrations, the old gentleman watching me nearly all the time, being very much interested in the proceedings. But what I wish the readers of the *B.B.J.* to specially note is that his spring count numbered two, and when I visited him he had actually eleven stocks of bees from these two. The two skeps had each thrown off three swarms, while both of the top swarms and one other had given "maiden swarms." I drove eight of the eleven lots, and from them obtained, on an average, three stones per skep. I should state they had splendid forage in the shape of cole seed and mustard seed in the early summer, with buckwheat to finish up. Some people object to buckwheat honey; I do not, and hold the opinion that it is the best kind to use in cases of colds and sore throats, &c., as there is a certain pungency in it that is beneficial to those suffering from these ailments.

I have visited several apiaries in the North Hunts district, and from all I can hear and see the honey season for 1892 was a very good one. I hope we may get as good a one in the present year. I also visited the dairy show, and was very much struck with the splendid show of honey there, and pleased to see that one of our Hunts bee-keepers had taken the second prize for run honey, and got a "highly commended" for the best show of honey. I, too, exhibited, but drew a blank. Never mind—*Nil desperandum*. I hope I shall profit by the "useful hints" which our Editor gave to me in the half-hour's chat we had on that occasion. I should also liked to have had a chat with Mr. "Notes by the Way," for I always read his notes with interest, and take this opportunity of thanking him for them, and hope that should he come down to our county he will give me a call.

Apologising for trespassing thus on the space of your valuable paper, I conclude by wishing our editors and all bee-keepers a prosperous and happy new year.—R. Brown, *Flora Apiary, Somersham, Hunts.*

MAKING SYRUP.

[1306.] Seeing Mr. Webster's letter (1303, p. 28), on feeding with syrup, it may interest your readers to know that I do not even go so far as he does, as I never put the syrup on the fire at all. Since a letter appeared some two or three years since from Mr. John Walton (I think) in the *B.B.J.*, I have simply added boiling water to the sugar—one gallon of water to one stone of sugar for spring, and less water for autumn, feeding—and have wintered many hives on nothing else, and have never noticed any evil effects. Stir with a stout stick until the sugar is dissolved.—Arthur J. H. Wood, *Bellwood, Ripon.*

HOW TO OBTAIN HONEY IN POOR DISTRICTS.

[1307.] A week or two ago, had it not then been the season of peace and goodwill, I should have felt inclined to chide your correspondent, Mr. Grimshaw, who writes in *B. B. J.* on December 22nd last (1271, p. 497), on "How to Obtain Honey in Poor Districts," for not contributing his say something over twelve months sooner. At that time the question of rapid feeding to fill up brood combs, and so force the bees to carry their precious loads into the surplus chambers overhead, was being thrashed out, and the blows fell thick and fast on the pate of your humble servant. When I wrote on this same subject about a year ago, I had not the slightest knowledge that the same idea had occurred to any one besides myself. Saving a hint or two from the "Hut," by "X-Tractor," it had, I think, never been named before. Of course, it was very wrong of me to bring forward so important a matter on no more solid foundation than the sandy one of theory; but is it not also wrong to condemn theory before it has been proved faulty in practice? I think that true wisdom lies in combining the theoretical with the practical. Many can conceive new ideas, but have neither time nor opportunity to fully test them in practice, and so the help of two sets of individuals is often required in order to arrive at what is best in our craft, and change experiment into practical experience.

And so, seeing that criticism or divergence of opinion on bee-matters is well to the front just now, it may be well to say that, so far as the subject I am now dealing with goes, not one of those who took part in the discussion of this particular theory, viz., "Will bees allow syrup stored in the brood chamber to remain there, or will they spend their time carting it upstairs into surplus chambers when the latter are put on?"

in *B. B. J.* at the time my first letter appeared (November 20th, 1890, p. 559), were any more experienced than I was myself; so it was "theory only" on all sides. Since that time nothing was said until the other day, when the letter first referred to appeared; this time not from a novice, or one with no reputation to lose, but from one of our leading lights, who, like myself, has the interest of the craft at heart, and yet does not fear endangering his good name by telling out boldly what he believes will assist in adding to the bee-keeper's harvest. I therefore say, "Bravo, Mr. Grimshaw!" but I would warn that gentleman not to be surprised if he is confronted with the theory that his honey is three parts sugar.

In conclusion, I would ask if any of your readers have so far tried the plan advocated, and if so would they let us have their experience of it? Perhaps, also, our worthy Editors will favour us by reprinting the article in *Gleanings*, referred to by Mr. Grimshaw, for I consider there is "a blessing in it." Wishing to Editors, contributors, readers, and bee-keepers everywhere a prosperous '93,—J. W. Blankley, *Denton, Grantham.*

HOW FAR DO BEES GO IN SEARCH OF NECTAR?

Will Bees Eat Herrings?

[1308]. Mr. Heddon, the American apiarist, puts down an "area" or nectar-gathering field for an apiary at six miles, *i.e.*, a radius of three miles, with the apiary as the centre. On the other hand, Mr. S. Simmins assures us that honey will not be profitably collected if the bees have to go more than half a mile from the apiary. Yesterday I received a visit from a friend residing about 150 miles further inland from where my apiary is located, and where the flora is totally different. "There's one blessing you enjoy," he remarked, as we strolled through the apiary, "and that is, you've none of that beastly 'Noorse Doorn' in these parts. I thought to escape it myself, but my bees store the bitter honey it yields to a great extent in my hives, and yet the nearest 'Noorse Doorn' is a good twelve hours' ride (seventy-two miles) from my farm!" What will Mr. Simmins say to that?

A Devonshire man out here tells me that he has repeatedly seen his father place a red herring at the flight-hole of his hives, and that the bees eat it with avidity, leaving only the bones! He assures me this in all earnest. I at first concluded it to be some ancient country dodge to drive off robbers, the smell of the herring overpowering that of the stores and the odour emanating from the hive; but he assures me the bees *eat* it, and that he has often seen the skeleton, or clean-picked bones, of the fish lying before the flight-hole! What next? Can any of your readers confirm this? I know that they feed horses on fish in Iceland; but can it be possible that bees too enjoy such diet?—S. D., *Cape of Good Hope.*

[We consider that the bee-pasturage enclosed within a radius of two miles from his apiary comprises all the gathering-ground of any practical value to the apiarian. In proof of this we knew of a case where several stocks were reduced to starvation-point one season, with an avenue of lime-trees situated two miles away. And from these same limes, the same season, bees located near at hand gathered plenty of honey for themselves, and a fair amount of surplus. Our far-away correspondent's "friend" could surely not be serious, or else he was wofully ignorant of the flying powers of bees. It is absurd to talk of them travelling a twentieth part of seventy-two miles for nectar from any source. As to the "red-herring" story, we certainly never heard of bees possessing a taste for fish of any kind, though they have no distaste for a certain amount of salt. It will be an easy matter, however, to either disprove or verify the story at the cost of a red herring.—Eds.]

MY DOINGS UP TO DATE.

[1309.] The weather here has been very wintry of late, 20° of frost being registered in my garden during the night of December 27th. But now the frost has broken up, and to-day (January 18th), while bees were flying merrily, I took the opportunity of ascertaining if the severity of the weather had caused much havoc among my stocks. I found all alive and strong, with only a few dead bees on the floor-boards. I renewed the cake of candy which I always keep on, thus saving the sealed stores below for use in spring. I shall begin pea-flour candy feeding during the coming month, and also try the plan advocated by Mr. A. Sharp of pushing the next cake further along the frames, to spread the brood. It makes one feel quite joyous to see snowdrops and crocuses peeping up above the ground in sunny spots of the garden, which I first saw to-day.

I see that a correspondent (1289, p. 14) has been asking, "Are bees deaf?" I know this much, that if they *are* deaf, they always get angry whenever I go to sweep the gravel paths about the hives, and I am obliged to wear a veil; but at other times I can go for hours about them, and not a single bee will touch me.

The question of standard honey bottles is also receiving plenty of discussion, *pro* and *con*. Mr. Lamb's suggestion (1284, p. 5) is a very good one. I certainly say that his honey in globe-shape jars was, in my opinion, all that could be desired at Reading Show last September. I quite agree with Mr. McNally that we want a jar that the screw top will not come off of when handling. Only last year, on my endeavouring to turn a jar of honey bottom upwards, to test the consistency, the cap came off, and half the

contents of the jar found its way to the ground. Since then I always put my finger on the cap when turning a jar of honey. I trust we shall ere long hear whether the B. B. K. A. is going to recommend a standard jar or not.

If the weather chart for 1893 turns out correct, I should think this year will be one of the best for honey on record, and will quite make up for the few past bad seasons.—SOUTH BUCKS AMATEUR.

SKEP-MAKING.

[1310.] The information on the subject of skep-making which appeared on p. 490 of *B. J.* for Dec. 15 last, is, if you will allow me to say so, decidedly incorrect in some of the details. As a practical skep-maker I say it is next to impossible for any one to sit down and make a skep as the writer, whoever he may be, says. The first words are, "Get some briars; split into three, scrape out the pith," &c.; but he does not tell how to do it, or with what tools! The briars are split with a "render," and the pith is taken out by means of a "draw-shaver." Then we are told to "point one end." What for? I would ask. Next, we must buy split cane at 2*s.* 6*d.* or 3*s.* *per pound*. No skep-maker buys "split" cane; we buy packing cane, costing about 8*s.* per cwt.

Claiming, as I do, to be the maker of more straw skeps, or cottager's hives, than any man in England, I will be very pleased if any reader of the *B. J.*, having sufficient interest in the subject, would call here and watch how the work is done. There is no secret about it, but before any one can do it they must know how, and that cannot be learned by looking on. The Seamark family have been known as skep hive-makers for some generations, and my father has turned out as many as a thousand with his own hands in a single winter, besides other work in the same line, while I can myself make over a dozen per day. I only mention these things to show that I am not talking about what I do not understand.

Well, then, to make a skep in our way we must first get a buuch of Middlesbro' "roods." Soak them in water, and then split or "rend" them into three or four, as desired, at one push with the "render" before-mentioned. Wet them again after rending, and then pull them through the "draw-shaver" to remove the pith. Ten roods, each rent into four "scames" (forty scames in all), will be enough for an ordinary skep. Get your straw ready, which—though it should be first soaked—must not be used wet, or it will shrink after being made up. Instead of the "curtain ring," mentioned in *B. J.*, get a ring about one-and-a-half inches long, cut from a cow's horn, with an inside diameter of about one inch, and, after making up a roll of straw about as thick as a man's three fingers, or as much as will fill out the horn ring, push the ring about three parts down the length of your roll, and cut the straw at the thick end with a sharp knife, not square off, but in a tapering direction. Next thread your sewing-needle with the stronger end of the scame, and then let the needle fall to the ground. Take hold of the small end of your scame and bind the straw round firmly. When about eight inches have been so bound, begin to bend the roll in circular form and bind it to a wood plug made to size of hole required in top of skep.

Then, taking your needle, sew to the first stitch, and as you proceed the skep is shaped mainly by the manner in which the needle is placed; but the straw must not be bent when stitching, or it will come back again to where the needle is, but by placing the needle correctly and *not bending* the straw, the hive can be made with a flat top or any other shape as desired. Then the instruction given in your pages is to "twist the straw from you." It requires no twisting; it will twist itself by getting the stitches tight up. Neither must you "bend." You must place your needle *flat* to make the walls of the hive, and so continue till it is finished.

In concluding, let me say I will give advice on skep-making freely to any one applying for it.—H. SEAMARK, *The Apiary, Willingham, Cambs.*

SELLING HONEY BY MEASURE.

[1311.] Having had about six years' experience of selling honey, I beg to inform you that most of the honey in Devon is sold by measure, and that I think is the most honourable way to sell; there is no fourteen ounces to the pound then. If you sell a pint or a quart, and give measure, then charge according to the quality and density of the honey.

If you want to show, you can have the same sort of bottles, tie-over or screw caps; but let the bottle be marked half-pint, pint, or quart, as the case may be—honey is always in a liquid state when put into the bottles; then you do away with weighing fourteen ounces to the pound.—CHAS. MARKS, *Kingsbridge, Devon.*

[Our correspondent surely estimates too lightly the difficulties which would arise in selling honey as suggested. It is not too much to say that in a quart of honey the difference in weight between a thin, light sample and a very dense one would be well on for two pounds! How, then, could this difference be made clear to a purchaser without the use of scales?—EDS.]

RE STANDARD HONEY JARS.

[1312.] If my experience is worth anything, I would say that I annually put about ten hundredweight of extracted honey on the market, and use the fourteen-ounce jars for the purpose. My reason for adopting this as *my* standard jar was that most of the so-called one-pound jars will hold seventeen to eighteen

ounces of well-ripened honey, and I maintain that a *well-filled* nominal pound jar of ripened honey will hold its own against a nearly filled or even full eighteen-ounce jar of green stuff, like some I have seen. I make it a rule to send nothing but well-ripened honey, and then, Sirs, my fourteen-ounce jars weigh fifteen to fifteen-and-a-half ounces net. I am neither afraid of foreign competition or seventeen-ounces-to-the-pound men. My customers buy my honey and leave the matter of jars to me, and it is the honey that recommends itself, *not the jar* that recommends the honey. Should "Hemlock Stone" or any "seventeen-ounces-to-the-pound" bee-men come my way, I may say there is a four-and-a-half-gallon cask of mead in my cellar, made in 1891, a glass of which would quickly soothe any of their qualms of conscience, and also, by putting them into a "fair" frame of mind, prove to them that justice is not to be found in either extreme.—NEMO.

STANDARD HONEY JARS.

[1313.] It seems to me that this correspondence has gone rather wide of the mark. It is simply a matter of detail between purchaser and seller what kind or size of receptacle honey should be sold in, and I take it the B.B.K.A. have nothing to do with this. What is required, however—and, moreover, what I know several of your correspondents alluded to—is that all honey staged for exhibition at our honey shows shall be shown in *exactly similar bottles*, and it is thought by some to be the duty of the B.B.K.A. Committee to decide upon a "standard bottle" for this purpose, leaving each to choose the bottle that suits him best for ordinary sales. —ARTHUR G. PUGH, *Hon. Sec. Notts B.K.A.*

THE "WELLS SYSTEM" AND JOINING UP COLONIES.

[1314.] With your permission I should like to give my experience in bee-keeping. I began with two swarms (both in frame hives) in June, 1891, from which I got forty pounds of section honey, besides leaving the bees enough for wintering on. I then made three more hives, and populated them with driven bees, which made my number up to five, four of which came out well in the spring, the other rather weak. At the end of the season I had taken 150 pounds of sections, and thirty pounds of extracted honey, besides having three swarms, which increased the number of my stocks to ten. I have read a great deal about the "Wells" system, and thought I should like to try it; so I made a hive to hold twenty frames, divided in centre by perforated dummy. Would you tell me the best time for transferring two lots from single to double hive, also how to stop fighting on alighting-board, as I think the bees are sure to fight?—E. T. W.

[Whenever the weather is warm enough for bees to fly, they may be transferred safely; and if the bees, when transferred, are carefully separated by the perforated division-board, they will not fight.—EDS.]

Echoes from the Hives.

Honey Cott, Weston, Leamington, January 17th, 1893.—Since Christmas we have had a fair amount of frost, the thermometer showing at times as much as 19° of frost. I do not consider, taking altogether, that it has been nearly so severe as it was two years ago. There have been times, in the middle of the day, when the sun has been bright (more especially last week, about the 12th and 13th), when many bees took advantage of the same to take a fly, and carry out their dead. I have gone round myself, too, with a hooked wire and pulled out any loose dead ones. In one case I caught, with the wire, some live bees, that must have been clustering right down to the board. The first part of the winter the tom-tits paid me a visit, a lot of them. I caught about three, and lately the rest have decamped. Have had a considerable amount of snow again to-day. Hoping we shall have a good season—JOHN WALTON.

Queries and Replies.

[705.] *Bees Going Back to Old Location.*—I bought two swarms of bees last July, but about two months ago I removed them to a position about a quarter of a mile from where I placed them first. Will there be any chance of them going back to their old stands when they commence to leave their hives again?—R. GALTCHER.

REPLY.—No. The fact of the bees being confined during the long frost will remove any risk of loss.

[706.] *Bees in Skeps Dying.*—I send you samples of comb and dead bees from a straw skep I purchased on October 5th last. On New Year's Day I found a lot of the bees dead, but the remainder seemed all right. Fourteen days later I again examined them, and this time the whole had perished, although there was full seven pounds of honey in the combs. There were quite a lot of bees all crowded up towards the feed-hole at top of skep, as if they had been trying to get out. Do you think foul play on the part of some one has caused their death?

REPLY.—There is nothing in bees or comb to indicate disease, and we cannot see how any "foul play" could have caused their death. Probably it is a case of death through the bees being unable, owing to the cold and paucity in numbers, to reach the food only a few inches from them. The crowding up to the feed-hole points to this view.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

BETTWS--COED.—Bees sent have simply died of starvation through inability to reach the food, owing to continued cold. These mishaps will occasionally occur in spite of the most careful precautions on the part of the bee-keeper.

CHAS. AINGER (Lincs.)—Mr. J. Huckle, Kings Langley, Herts, is Sec. of the B.B.K.A., and will supply all information as to membership.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

British Bee Journal and Bee-keepers' Record.

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13. GRANULATED	3/3	6/3	12/3	23/9
14. CASTOR Coarse (15 Fine)	3/9	7/3	14/3	27/9
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CASH TO BE SENT WITH ORDER, and purchasers will please observe that if samples are required or replies asked to inquiries, a stamped addressed envelope must be sent, as we cannot undertake cost of postage. Delivery of Goods to be taken as receipt. If acknowledgment of Cash is required, stamped addressed envelope should be sent.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Pure English (Granulated Clover) Honey, in 60-lb Tins, at 7*d.* per lb. Address T. HOLLIDAY, The Apiary, Astbury, Congleton, Cheshire. 2

WANTED.—Will any of our Readers supply us with the present addresses of S. S. Goldsmith, Parkstone, Dorset, and A. Green, Selston? Address EDITOR, *B. B. J.*, 17 King William Street, Strand, London, W.C.

FOR SALE.—300 lbs. Pure Extracted Honey, in large or small quantities. Address Miss SAVORY, Sparkham, Attlebridge, Norwich.

FOR SALE.—Honey at 8*d.* per lb. Address R. W. EAGLETON, The Apiary, Parson Drove, nr. Wisbech.

WANTED.—Two Hives and Observatory Hive. Exchange Poultry or Homing Pigeons. Address G. ROSSITER, Pilton, Somerset.

PURE HONEY.—60-lb. Tins free on rail, 40s. Address T. HORSLEY, Riches Street, Wolverhampton.

FOR SALE.—Eight Box Hives, with Supers, covered window at back. Cost 8s. each. The lot for 21s. Also Cheshire's Vol. I., unsoiled, 5s. Approval. Address W. J. OATES, Macknade, Faversham.

WANTED.—A Gardener who understands Bees. Good references. Married preferred. No encumbrances. Good Cottage and Wages. Address G. FLOWER, Stokenchurch, Tetsworth, Oxon. 3

THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

OFFICE:

17 KING WILLIAM STREET, STRAND, LONDON, W.C.

The following are the Rules under which we are prepared to receive Sums of Money on Deposit from persons buying and selling goods.

In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. **Method.**—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. **Deposits.**—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER, *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. **Honey on Approval.**—All honey will be sold by sample, which must be sent direct to buyer.

4. **Bee-appliances.**—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. **Bees and Queens.**—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. **Goods in Transit.**—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. **Carriage.**—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 554 Vol. XXI. N.S. 162.] FEBRUARY 2, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Very visible signs of the break-up of the late severe frost have been seen in the frequent flights bees have been able to take during the last fortnight. On several specially warm days quite a "turn out" has taken place, and the bees will no doubt have been considerably invigorated and refreshed thereby. We are sorry to have already received reports of the "unexpected death" of some stocks, owing to failure of the food supply. Wherever uncertainty exists on this point, an examination should at once be made. In fact, any hives noticed as being unusually quiet about entrances while others are busy should have the corner of the quilts raised to make sure that nothing has "gone wrong" within. If the bees are found to be *in extremis*, candy will be useless as a restorative. A comb partly filled with *warm* syrup must be given, and the bees taken indoors—while confined to the hive—and thoroughly warmed up, to give them a chance of feeding. Should this fail, there is no hope of reviving them. The time has not yet arrived for any feeding other than is rendered absolutely necessary by impending starvation.

FOUL-BROOD REMEDIES.—A correspondent, whose communication appears on another page, in dealing with various topics interesting to bee-keepers, also refers to foul-brood remedies, or "cures," as he terms them, and we have selected the portion of his letter in which this subject is dealt with, deeming it of sufficiently general interest for special notice in this column. Our correspondent says: "What we want is an effective remedy for foul brood. This is of far more importance than new bee-books, or even new appliances, to my mind. I know several who have given up bee-keeping altogether owing to foul-brood troubles. Many things have been tried, but none of them have made a thorough cure, for, as I have found out, if, after getting rid of it, the bee-keeper is not careful, the disease will soon reappear as bad as ever. So far as my experience goes, naphthaline and Naphthol Beta are the best remedies which have been tried, but are they cures?"

We fear that our correspondent, along with many others, does not fully realise the character of the disease known as foul brood when he writes of a "cure," and supposes that a stock of bees, once rid of the pest, is safe for the future. Indeed, it is misleading to speak of *curing* the disease at all. The bacilli which are the primary cause of it may be destroyed by the use of certain remedies or preventives as fast as the spores—which are synonymous with the egg—"hatch out," to use a bee-term. But these same spores may be floating about in multitudes in the very air surrounding an infected apiary, to say nothing of their lodging in the clothing and implements of the bee-keeper himself, and it needs but a suitable "hatching-ground," such as the warmth of the hive-interior presents, and so congenial a medium for its growth as the juicy body of the larva affords, to cause the bacilli to increase with a rapidity almost beyond belief if suffered to go on unchecked.

To put the case as plainly as possible, with the view of showing the imperative need for preventive measures, let us suppose a scientist desirous of experimenting with *Bacillus alvei*. He places a very minute portion of foul-broody matter—say just a speck of the body of a diseased and dead larva—in a glass tube with a suitable medium for the cultivation or growth of the spores and subsequent development of the bacilli which the diseased matter contains. The cultivating tube and its contents are then exposed to a certain temperature, and the living bacilli soon begin to appear and increase with such rapidity as to number

millions in an almost incredibly short space of time. But, if the proper proportion of a preventive is infused in the cultivating medium, no increase or growth can or does take place. This has been proved beyond doubt. The deductions to be drawn from the above facts are, firstly, to show that so long as the spores exist foul brood cannot be cured. Once the larva of the bee is affected by the disease, that larva must die; there is no curing it, and our efforts must therefore be directed towards limiting or confining the death-dealing infection to the cell which contains its dead body. And secondly, that this can be done by preventing the spores floated out by the constant air-current from the diseased cell ever reaching the bacillus or living stage—figuratively, to "addle" all the eggs as it were and render them harmless for increase. But if the use of preventives be not vigorously and continuously carried out, then, as our correspondent has said, "the disease will reappear some time or other as bad as ever."

It has been shown that the dreaded bacilli can be attacked in two ways: first, through the alimentary canal of the bee, as when the preventive is used in the food; and, secondly, by means of a disinfectant, used as advised with naphthaline. If the bee-keeper takes advantage of both precautions he will approach as nearly to effecting a "cure" as may be in the light of all that science has as yet thrown upon the subject of foul brood. To talk of *curing* foul-broody bees by what is called the "starvation process" is so much nonsense in view of proved facts. It is true the sole efficacy consists in the diseased bees dying off in the process, but their dead carcases still contain the germs of the disease, which is ready to break out on the first suitable opportunity. If preventives are used a time will arrive when most, if not all, the germs will succumb to the treatment.

THE "WELLS" HIVE.—It was the intention to offer a few observations under this head, but want of space compels us to defer our observations till our next "Hints" appear.

BRITISH BEE-KEEPERS' ASSOCIATION.

The usual monthly Committee meeting was held on Wednesday, January 18th, at 17 King William Street, Strand, W.C. In the absence of the Chairman (Mr. Cowan), through indisposition, the Hon. and Rev. H. Bligh presided, and there were also present the Rev. R. Errington, Rev. G.W. Bancks, Major Fair, and Messrs. W. H. Harris, H. Jonas, J. Garratt, and W. B. Carr, together with the Rev. W. B. Burkitt and Messrs. J. M. Hooker and R. A. H. Grimshaw, *ex-officio* members. Much regret was felt at the continued illness of the Secretary, Mr. Huckle, which necessitated his non-attendance.

The minutes of the previous meeting having been read and confirmed, some discussion took place with regard to the conditions on which the set of lantern slides recently purchased by the Association should be lent to members and others. The date of the annual meeting was arranged to be held on the third week in March, subject to the convenience of the President, the Baroness Burdett-Coutts, who, it is hoped, will have returned to England before that time. The exact date will be announced in a future number of the *B. J.*

The Secretary's correspondence included an invitation to the Association, on the part of the Bath and West of England Agricultural Society, to hold a show of bees, honey, &c., at their show at Gloucester this year, and it is hoped that arrangements may be made for doing so.

Mr. Garratt, as Hon. Secretary of the Sub-Committee appointed to deal with the exhibit of British honey for Chicago, gave details of the work done with regard to that matter, the results of which were on view in the room below, and the further business of the meeting related chiefly to matters of no public interest, and concluded in the usual way.

KENT BEE-KEEPERS' ASSOCIATION.

The annual meeting was held on Thursday, the 26th of January, at the "Royal Crown" Hotel, Sevenoaks, at five o'clock in the afternoon. The attendance of members was fairly numerous, and compared favourably with former occasions, when Jermyn Street was the *rendezvous*. The Rector of Sevenoaks, the Rev. T. S. Curteis, was voted to the chair, the duties of which he very efficiently discharged. The annual report of the Council for the past year stated that upwards of fifty new members had been added to the Association, and adverted to the valuable aid given to bee-keeping by the grant of 125*l.* by the Kent County Council to provide technical instruction on the subject. It was a matter of regret that the cost of providing members with the *Bee-keepers' Record* and the expense of providing an equipment for the use of the lecturer (Mr. Garratt) had caused a serious deficiency in the year's accounts. The Council, nevertheless, had hope that the ensuing year would prove the soundness of the policy which had been pursued. It was announced that the Annual Show of the Association would be held at Sevenoaks on August 16th. As previously intimated, Mr. Till proposed that Rule III. of the Association should be amended, with the object of raising the minimum subscription for cottagers from one shilling to two shillings and

sixpence; this, after the rejection of an amendment to the effect that the rule as at present in force be retained, was carried. The formal election of Lord Sackville as President for the ensuing year, and the election of Hon. Treasurer (Mr. Morris), and Hon. Secretary (Mr. Garratt), and also of the Council, were proceeded with. Subsequently the prize drawing for a bar-frame hive and four supering racks, in which the cottager members participated, was carried out, with the following result:—Hive, won by Mr. F. Langley, of Seal, Sevenoaks, and the four other prizes by Mrs. George (Sutton-at-Hone), Mr. Penfold (Cranbrook), Mr. F. Baker (Cobham), and Mr. J. Grenstead (Sittingbourne), respectively.

A *conversazione* was held later on, and, in spite of a wet evening, was numerously attended. The chief entertainment consisted of an address by Professor F. Cheshire, on "Honey as Food, and the Importance of Bee-keeping as a Rural Pursuit," which was listened to with great interest. The Professor gave some striking demonstrations of the effect of honey upon the human system when taken as food, speaking of it as the most wholesome of the heat and force-producing articles of diet. By means of an oxy-hydrogen lantern, kindly lent and manipulated by Mr. Lovett, an excellent series of slides) illustrating the physiology of the bee, and vivid incidents of bee-management were shown, Professor Cheshire concurrently explaining the views. With here and there an amusing simile or striking fact, by way of relief to a rather technical discourse, the speaker kept the attention of his audience throughout a lengthy description, for which, at the close, he received a very hearty vote of thanks from all present. Mr. E. D. Till, a member of the Council of the Association, spoke upon the necessity of extending bee-keeping in the county until the estimated capability of each of its 400 parishes to produce a ton of honey was realised, and justify the claim that Kent should be called the Apiary as well as the Garden of England.

At the close of the proceedings the Secretary received the names and subscriptions of new members, and it was decided to call an early meeting of the local members to organize a branch of the Association for the Sevenoaks centre.

MAKING THE MOST OF BEE-KEEPING.

(*Concluded from page* 33.)

The final article which we reproduce is by Mr. Doolittle, and reads as follows:—

"Every one, or nearly so, seems to have gone crazy over the dollar and cent part of our pursuit, as though that was the acme of our existence. It is reported that Astor once said to a man who was envious of his fortune, 'Would you take care of what I possess for what you want to eat, drink, and wear?' 'No!' was the response. 'Well,' said Astor, straightening up, 'that is all I get.' 'But,' says one, 'I am anxious for my children.' Is it any worse for your children to toil for their living than it has been for you to do so? Let me change that. Would you deprive your children of the keen enjoyment you have experienced in building up a home of your own, by giving them one already built up? 'Lots of money' does not bring happiness; on the contrary, it often brings discontent, and if given to one who has not earned some money for himself, as a rule, it spoils the usefulness to the world of one who would otherwise have been one of the 'pillars' in the community in which he lived and in the nation. If we as bee-keepers can secure to ourselves a comfortable home, though it may be humble, from our bees, together with something to advance Christ's kingdom on the earth, according as He blesses and prospers us, and with this be content, we may enjoy a little bit of Paradise this side of Jordan. No pleasure has ever come to me like that which has come through success at last, after working patiently and perseveringly over some problem which has confronted me in life, whether it was about the bees or the building of a home, or trying to elevate mankind. He who is not willing to work patiently till success crowns his efforts, and in that patient work realise the truest enjoyment, is not the one to be of the greatest blessing to the world. Nearly all of our great men, who have lifted communities and nations to a higher plane, have come up from the humblest homes, through patient toiling, studying hard and faithfully, perchance by the light of a pine-knot, because poverty so pinched; or perhaps worked at the forge and studied at the same time, because too poor to attend an academy or college; or, like Cary, fit himself for a great life of usefulness while working on the cobbler's bench, as the case may be.

"Not long ago, I received a well-written letter, as compared with most of the type-written letters which I receive, from the editor of the *Review*, and in closing he asked me to excuse the blunders in it, as he had written it with one hand while he tended the baby with the other. How many of the dudes and 'calamity howlers' in the land would have done this without saying something about 'bettering their condition,' if they were to write under such circumstances? Yet in this patient perseverance, under any circumstances, I can see why the *Review* has risen to the high plane which it enjoys amongst the bee literature of the day, and also, an enjoyment to our friend, brother, and editor, which he could not possibly enjoy had he been 'cradled in the lap of luxury.'

"Supposing the bee-keeper does not live as well as a Gould or a Rockafeller, he has the pure air, the sunshine, and honest and honourable enjoyment, and, as a rule, gets a comfortable living, which may be enjoyed far more than the life of a gourmand. If any bee-keeper is not satisfied

with his condition as it is, let him spend the days not required with the bees in carrying mortar with a hod to the top of some three or four-story building, receiving as pay from one dollar to twelve shillings a day, and board himself, as thousands are doing (and being happy at that), and he will come back to bee-keeping, and thank God that He blessed the world with the little busy bee, even if we have now and then a poor season. From the above it will be seen that I consider 'the best returns for the bee-keepers' labour' comes by raising our pursuit from the grovelling idea of only a dollar and cent affair, up to where we shall appreciate it as one of the grandest pursuits along the road of health and happiness which God ever gave to man. And to the question, 'Taking bee-keeping as it is, what does it most need?' I answer, a man or woman who can see the heights and depths, the lengths and breadths which are possible to be attained along the line of intelligent thought, enjoyable health, and a pursuit which brings happiness, even though we be considered the poor of this world. This, I believe, is 'The best advice that I can give bee-keepers' under existing circumstances: that God may prosper us, so that we may have more to use in lifting up the fallen, and in bringing comfort to those who are cast down, as well as to spread His kingdom in the world.

"I am convinced that placing out-apiaries about the home yard, and working them for extracted honey, tends more toward success, along the financial line, than any other plan. This I say after having an out-apiary for the past three years. Why I say run this for extracted honey is that, if worked on the tiering-up plan, there will not enough swarms issue to pay for looking after, and if the honey is all left on till the season is over, little time is required at the out-apiaries during the swarming season, so that the home apiary can be worked for comb honey. By placing this thoroughly sealed and ripened honey, taken off after the harvest is over, near the ceiling of a warm room for several hours, it can be extracted as easily as when first sealed, and a quality obtained not obtainable in any other way."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[1315.] Since I last wrote we have had milder weather. Monday, 23rd, was a grand day for the bees to have a general cleansing flight, and the roofs of the hives show by the thousands of marks that nearly cover them in some parts of the apiary how general the exodus must have been; and while the bees were busy on the wing, the bee-master was busy having a peep and trying the weight of straw skeps, of which we still retain a few (the number being often augmented by purchase of stocks in skeps). Skeps that are marked on register as heavy or "supply good" in September are, in some instances, getting light now; possibly owing to the mild autumn, breeding may have continued till late, and consequently a run on the stores. I found one skep defunct, though register is marked, "October, colony fair, supply good." The skep swarmed late, and probably the queen failed to become fertile, and the colony dwindled to a small cluster and perished when temperature was in the immediate neighbourhood of zero, although with abundance of food; and my other loss will cling to memory for a long time, as it was through my neglect to give a cake of candy in November. I marked the register, but neglected to mark the hive, and consequently the hive was missed when I was round with my basket of cakes. 'Tis very vexing, as this is a double loss, as I had two colonies in the hive *à la* Wells. One colony had five frames of stores, and the other on five frames "*stores short*," and by some means the colonies thought fit to unite, and the colony with good stores left their combs and marched off into the next compartment with the colony that were already short of stores, and the combined colonies, forming together a splendid lot of bees, perished from want. I note these mishaps as a warning to the novices in the craft; the veterans may say, "Served him right."

I am pleased to be able to corroborate Mr. W. B. Webster *re* syrup-boiling. I think Mr. Walton wrote me some three years back saying he had tried syrup for feeding made by pouring boiling water on the sugar and stirring till dissolved, and since that I have followed the plan with success. It saves a lot of labour and time, and answers the purpose just as well as the best boiled syrup. Glad to see Mr. W. B. W.'s signature again.

I visited my out-apiary on Tuesday; found all alive and well. The party in charge said she thought some of them were going to swarm Monday afternoon.

The other week I mentioned sheet zinc as a cover for faulty roofs. At my Stanmore apiary I have some hives that I covered last year with the zinc, and now they are quite dry, though last winter they were sodden with wet. I have marked some more covers that are not perfectly watertight, and intend covering some shortly. I take off the top piece of wood that covers the joints of the gable or ridge, and then turn up one edge of the sheet of zinc, bring this under the eaves one side of cover of hive, put a few tacks, and then pull the zinc as tight as I can, and turn the other edge under the other side and nail it in place. Then the front and back edges are turned back under the eaves with mallet or hammer, and nailed in place. A coat of light stone-colour paint gives it quite a presentable appearance.

The bees begin to frequent the watering-places on sunny days, thus showing that breeding has began in some hives. These indications of the opening of a new year of bee-life engender thoughts of the busy season that will soon be with us, and in the garden we notice the crocus-leaves bursting through the ground, and in sunny nooks the white arabis shows a few buds; then the buds of the snowdrop and primrose also turn the thread of one's thoughts and hopes to the spring.

On dit that one of our prominent appliance manufacturers has patented a "perfect self-hiver and super-clearer combined." This is just what we have been anxiously waiting for. We shall soon be able to cry "*Eureka!*" The present state of trade, even in things apicultural, calls, I suppose, on the inventor of anything likely to be of value to bee-keepers to protect his idea from being copied or pirated. This perfect and combined appliance is not theoretically perfect, but has been practically tested last season, and I think I am right in saying it will be advertised in due course in the *B. B. J.*—W. Woodley, *World's End, Newbury.*

STORING SURPLUS.

[1316.] In a recent issue of the *B.B.J.*, Mr. Grimshaw (1271, p. 497) advises a method of treating stocks in poor districts in order that the greatest possible amount of surplus may be stored. Where there is only one honey-flow, and that a poor one, bee-keepers must be ready to adopt any legitimate means to put stocks into the best condition for storing and making the most of the honey-flow or any part of it which may be available.

Mr. Grimshaw's suggestion, I take it, refers more particularly to the treatment of *stocks*, though he would, no doubt, advise it just the same for swarms. As any method of treatment which may result in swarms giving a larger surplus than when they are first built up into good colonies before supering may be acceptable, I give a plan which I have proved to be thoroughly successful in practice.

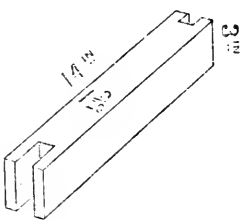
Last season, treated as detailed below, swarms, particularly late ones, gave me returns far above my previous records.

In the first place, it will be admitted that, unless a swarm is very large, it will be several days before the brood chamber is filled with combs and a super may be given with any probability of its being taken to by the bees for the storing of surplus.

Mr. Simmins some years ago advised an effort being made to get surplus from all swarms, which could afterwards be built into good colonies by confining the swarm to a few frames, and putting on at once a divisional section rack containing one or two rows only of sections. This treatment almost compels the use of sectional supers, which is by no means the surest method of getting the greatest amount of surplus in a short time. I much prefer to use the full supering surface whether my object is sectional or extracted honey.

Many bee-keepers have proved conclusively that a strong swarm put on foundation in shallow frames will, if confined below by an excluder, give a very large return, but there is then the disadvantage of having the stock at the end of the season on shallow frames.

How to have the same space for the bees as when shallow frames are used, and at the same time use standard frames in the brood chamber was the puzzle I attempted to solve. At first I used a block three inches deep, extending from side to side of the hive, and thirteen and a half inches wide, so that the frames would then, without the bottom bars, fit into the hive as usual—the end bars, however, hanging down close to the block. This plan I gave up for frame blocks,



Frame Block.

which are fitted with ease into the bottom of the frame.

Being the width of a metal end, they form, as it were, a continuous block under the upper parts of the frames where brood-rearing will be carried on. As bees prefer to walk on combs, instead of giving ten frames provided with blocks, I give one or two frames of comb or full sheets of foundation in the centre of the hive.

A strong swarm thus treated will at once be forced into the super, and storing, weather permitting, will be rapidly carried on. On the wane of the honey-flow the surplus should be taken, and the frame blocks removed. By that time the bees will have greatly increased in numbers, and the combs will be worked down to the bottom bar. Of course, if there is very little honey coming in feeding will be necessary, and I have no doubt the result of the treatment of a swarm as here explained will be a good amount of surplus, and by the time for feeding up for winter a strong colony mainly of young bees upon combs of worker cells.—C. N. White, *Somersham, Hunts, January 28th.*

DO BEES HEAR? AND "THE HEATHEN."

[1317.] I am always deeply interested in the contributions of your excellent correspondent, Mr. R. A. H. Grimshaw. Whether or not bees are deaf—the subject of his last letter (1304, p. 34)—is a question of small importance to me as a practical bee-keeper. Still, I am greedy of all the truths that can be demonstrated concerning

the bees I love so well, and to my mind Mr. Grimshaw settles the question of hearing as nearly as possible in the absence of positive proof. But why should he rate "The Heathen" for his *nom de plume?* Virgil was a heathen, but he knew a little about bees. Why does Mr. Grimshaw condescend to repeat that absurd *canard* about a great atheist? Mr. Grimshaw says, "Just as a great atheist, when viewing the wondrous mechanism of the earth and heavens, exclaimed that 'if there were no God it would be necessary to create one to work the intricate whole,' so, in my little way," &c. Will Mr. Grimshaw kindly give us the name of the great atheist, who, though an atheist, *admitted a God*, and proposed to create one if one were wanted? Mr. Grimshaw puts marks of quotation to the atheist's speech. Who was he, and when or where did he say it?

You see, Messrs. Editors, a *Bee Journal* is mostly about bees. You would properly forbid a theological wrangle in your columns. But among the possibilities of this world is the possibility of a man being an atheist and bee-keeper too, and such an one marvels that a really fine writer like Mr. Grimshaw should interpolate his work with such as the above. The absurdity has been the round of the press in various forms before to-day. If any "great atheist" ever made so self-contradictory a statement, Mr. Grimshaw, please give me the who, when, and where.—H. C. JACQUES, *Burton-on-Trent, January 27th.*

MY HIVE FOR 1893.

[1318.] A friend and myself have jointly designed a hive which we think differs in some respects from those usually advertised. We found last season that sectional honey did not sell so readily as extracted, so determined this year to work on different lines. At first we thought we would try shallow frames in the place of sections; but of course this would necessitate having frames of two sizes on hand, which, in my opinion is not desirable, so we concluded to keep to the Standard frame throughout, so as to have all frames interchangeable. Our next thought was how to best control the hive so as to have swarms or otherwise at will, *without disturbing the brood nest*, for we are both firm believers in the *let-alone* system, especially as regards the brood nest, and prefer the natural plan of re-queening, although some time may be seemingly lost. We knew that if the breeding space be too great, we could not rely with any certainty upon getting a swarm when wanted, and on the other hand, if too limited, our bees would suffer numerically, and throw off swarms when not wanted, so have decided to make all our hives for 1893 as follows:—Hive consists of two principal chambers, an upper and lower, each fitted with twelve Standard frames. In the lower, seven frames devoted to breeding, the eighth frame to have queen-excluder zinc fastened to it, and the remaining four will be for surplus honey; over all these frames a queen-excluder, but consisting of two pieces, one piece over the eight front frames, and the other over the remaining four. We purpose putting only swarms headed by queens from stocks which swarmed in 1892 into these hives. A fortnight after swarm has been hived upon the seven frames in brood nest, add the remaining four frames, not forgetting to place the eighth frame in position; when these are nearly filled with honey, and should the season be good, place the upper chamber on with its twelve frames, but not omitting to place several warm quilts on top of all, so as to keep all as snug and warm as possible. If favoured with a good season, I see no reason why we should not obtain from this one hive nearly a hundredweight of pure virgin honey. When the honey season is over, remove the upper chamber, and also the back four in the lower; place a dummy board next to the eighth frame, feed if required and pack for winter; thus throughout the whole season there is no need to disturb brood nest. When you think the hive would be better for a younger queen, instead of adding the four frames in the spring, limit the bees to the brood nest the same as all through the winter, and they will be almost bound to swarm—at least, this is the opinion of my friend and myself. Whether this hive will be a success, of course remains to be proved by the results attained this coming season; but in the meantime we should be glad to hear the *pros* and *cons* of our Editors and fellow-subscribers to the *B. B. J.*

I have been greatly interested in the "Wells System," and think it an admirable one; another friend of mine is going to work that system this year. I think we are all much indebted to Mr. Wells for his very lucid and disinterested description of his system; and may all his followers meet with the same success he has, is the wish of—PERCY LEIGH, *Beemount, Stoke Prior, January 24th.*

[It is always pleasing to read of the zeal with which young bee-hands devote themselves to new methods of management and especially to improvements in hive-making. But for years past we have, in our capacity of advisers, invariably recommended those less experienced to "go slow" in these matters; and the soundness of this advice has never yet been questioned by those who have passed through the "experiment stage" of their bee-keeping. We therefore once more repeat ourselves, and advise the trial of one or, at most, two hives on the plan proposed; then judge if it fulfils the conditions claimed for it. For the rest, our columns are open for any *pros* and *cons* readers may feel disposed to express on the new hive.—EDS.]

ANOTHER BEE OUTRAGE.

[1319.] Having read the letter under the heading of "A Bee Outrage" (1290, p. 15) in your *Journal* of January 12th, I can condole with the owner of the bees. One morning late in

the autumn of 1891, on going into my "apiary," I found to my dismay five hives (bar-framed) thrown over, the frames all scattered on the grass, and the bees, raving mad, attacked me on my approach to see what I could do for them. I started off to try and find the offender, and was not long before I got a clue; four young "would-be" gentlemen had, the night before, been on a drunken spree, and, suspecting that they had had something to do with it, I informed the police; one of the fellows was found to have a swollen eye, not being able to see out of it, but said it had been caused by a blow. My next step was to threaten them with a summons, after which I received 4*l.*, and not having sufficient evidence on which to get a conviction, I thought it best to take the money, and put up with the loss.

Now to go back to the bees. Having procured assistance, we found them a bit quieter, and were able to pick up the combs and return them to the hives, keeping a sharp look-out for the queens, but could not find one. We then picked up the live bees from the grass (numbers having been killed), but still found no queen. The first warm day I again made an examination, but with the same result, the bees being still in a very excited state. I did not get another day suitable to open the hives till the spring, when I found all five stocks queenless, and before I could procure queens for introducing, four lots had died. Last season I took on an average from each of my eight hives fifty-three and a half pounds of extracted honey. I drove several lots of bees for cottagers this last autumn, and found some good heavy hives, whilst some were very light. The bees were strong and healthy, and having plenty of spare combs and empty hives, I made my stocks up to nineteen, which are all alive, and flying out on January 22nd. The frost during the winter has been very severe in this neighbourhood. On the night of January 3rd, in Messrs. Cheal & Sons' Nursery, Lowfield Heath, the thermometer fell to within a shade of zero, and the following night it went a trifle below zero.

I enclose a label for your inspection, which I had prepared for my own use, it being worked up from a photo taken in my apiary by a friend. I should like to have your opinion of it.—R. C. B., *Horley, Surrey.*

[The label sent is very neat and looks well.—EDS.]

HOW TO OBTAIN HONEY IN POOR DISTRICTS.

[1320.] Referring to Mr. Blankley's remarks about rapid feeding before the principal honey harvests, he says that he believes it has never been mentioned before "X-Tractor" gave some hints about it a year ago.

May I assure him that it is "as old as the hills," as it was recommended very many years since in the *British Bee Journal* to be adopted before sending bees to the heather. No one who understands anything about the production of heather sections omits to feed up well before sending to the moors, more especially if you are sending hives far from home.

How would our bees have fared last autumn on the Yorkshire moors if they had not been fed before being sent up? Mine had each fourteen pounds of syrup before they left home, and even then some of them did not collect enough to winter on, and had to be fed on their return. I have heard of a great many hives dying off this spring already for want of food.

I have never known bees store the syrup in the sections; but, of course, everything must be done at the right time.—ARTHUR J. H. WOOD, *Bellwood, Ripon, January 27th.*

SOME NOTES ON NEGLECTED FEEDING, SYRUP-MAKING, STING-REMEDIES, ETC.

[1321.] The weather here for some time past has tried bees not a little, though mine have come through the frost well, very few dead being found on the floor-boards. On looking over a friend's bees the other day, however, they were found in very poor condition, some hives having only a few bees and almost no food. I gave to each a cake of soft candy at once, and the rapidity with which it was taken showed where the want lay, so I told my friend to renew the supply as they took it down. Had these hives been neglected a little longer, they would have been past recovery, and their condition was entirely due to neglect of my advice given last autumn as to feeding.

I was right glad to hear from so old a friend as W. B. Webster, and hope he will often give us a hint like his last on syrup-making. Many times I have been sorely vexed at the holes of feeders getting clogged with granulated syrup, because with twenty or thirty hives to go over it is no joke to keep clearing the holes of feeders, only to find them filled up again next evening. I may say, however, that last spring I adopted Mr. Woodley's plan of not boiling the sugar at all, and found it answered very well.

Referring to vinegar as a cure for bee-stings, I never found it so effectual as *arnica;* this not only stops the pain, but allays the swelling. A piece of wet calico laid on the affected part at night will also remove the swelling before morning with some persons. I have tried these two simple remedies on various persons for two years past, and find them answer very well. For myself, I suffer little or no inconvenience from stings.

To-day (January 24th) the bees are flying freely, hundreds visiting the water troughs provided for them, which looks as if breeding had begun.—S. SAWYER, *Great Marlow, Bucks.*

BEE-FLOWERS.

[1322.] Can any of your readers tell me the botanical name of the "white sage" recommended

by Dobbie in *Bee-pasturage?* Also whether the spider-plant, *Cleome pungens*, is of greater value to bees than *Cleome heterophylla*, *Cleome speciosissimum*, or *Cleome uniglandulosa?* These latter my seedman can supply me with, but not the former.—INQUIRER, *Norfolk.*

BEES IN COUNTY DOWN.

[1323.] The past year was very unfavourable in this district for bee-keeping, as there was hardly any surplus, and I had to feed all stocks largely; in fact, about three times as much as was required in former years. I have, however, the satisfaction of knowing that all my bees went into winter quarters well prepared to withstand the weather, no matter how severe, and I have seen them all on the wing during the past good weather. I took a peep into two hives which I considered weakest, and found the bees had plenty of sealed food yet, so if the coming season be at all good, I hope they will repay any extra expense I may have been at.—W. G. W. F., *Gilford, Co. Down, January 24th.*

CONCERNING THE "BEE JOURNAL."

[1324.] While sitting by the cosy fire on a cold winter night recently, reading your retrospect of past years, my thoughts wandered back to many happy hours spent in perusing the *British Bee Journal* (of which I have been a regular reader for about eight years). My first number I obtained from Neighbours' while on a visit to London, and from this I got my first lesson on bee-keeping. Since then, I have learned much that I know on the subject of bees through reading its pages. I advise every beginner in bee-keeping, not already a reader, to take it, for I can truly say from personal experience, it is the source of knowledge on the craft. Some time back, I thought of giving up taking it, but I always find something of interest or instruction.

For instance, Mr. Wells' plan of working bees, which I may try some time; but the locality where I live is only a poor one for bees. I have only got some of the "black honey," which has been spoken of several times during last year. I have given it the bees back again. I hope to do better in the coming season.

For some time I have been much interested in the correspondence on standard honey bottles, especially with (1284, p. 5) the article where your correspondent speaks of half and quarter-pound bottles of the pretty globe shape, which I think are very handy for both large and small quantities of honey.—J. BALL, *Sheffield.*

STANDARD HONEY JARS.

[1325.] I have followed the discussion on the above with much interest, and I must say that it has caused me to think more about bottles and bottled honey than ever I did before. I got a gross of jars from a respectable dealer last year to hold "one pound exactly," as stated in his catalogue. I never thought of trying their capacity until this discussion commenced. They hold 13 ounces of water. Five of them filled with honey weighed 124 ounces; five empty jars, with caps and wads, 40½ ounces. Deducting 40½ ounces from 124 ounces leaves 83½ ounces, or 5 pounds 3½ ounces net weight of honey.

In conclusion, I may add that my honey is of dense quality, that I fill every bottle to the top, that I would not like to offer a bottle for sale that was not so filled; and that the subject will be well weighed by the B.B.K.A. before coming to a definite conclusion is the hope of a —SCOTTISH BEE-KEEPER.

STANDARD BOTTLES.

[1326.] In my opinion what is wanted is a bottle to hold so many fluid ounces (as nearly as possible one pound of good honey). Let people choose their own shape—as at present it is unfair in showing. Take, for instance, two samples of twelve pounds each, both exactly alike; they are put in tall bottling tanks and allowed to stand for a few days to clear before bottling; there will be some thinner honey on the top, no matter how ripe. The one-pound bottles will require the whole, whilst the fourteen ounces will leave one and half pounds; or in a large exhibit say 200 pounds: one would appear 200 pounds, and the other 224 pounds. It is altogether besides the mark to argue that one is good and the other thin, as the small will hold thin, though less of it, as well as the large. have known cases where it has been done and when asked by the public what they held, the answer was about a pound.—J. R. TRUSS, *Ufford Heath, Stamford.*

Queries and Replies.

[707]. *Disinfecting Hives.*—Will you kindly give me your advice to following queries:—1. If I paint the inside of hive from which I destroyed stock affected with foul brood, will it kill the disease, as the hive is a good one, nearly new, costing 16*s.*? 2. Has Mr. Wells ever given inside measurement of his two-queen hives; if so, can you kindly refer me to number of *B.J.* in which it was given?—A. D., *Parracombe.*

REPLY.—1. The hive should be exposed to the fumes of burning sulphur, or else well washed with strong carbolic acid solution before being painted. 2. Mr. Wells uses a hive holding fourteen or sixteen standard frames for his double-queened stocks, and gives to each queen a second brood chamber of ten shallow combs, five-and-a-half inches deep.

[708.] *Candy Feeding.*—1. Will it be safe to place a cake of candy over the frames any mild day now when the bees are flying, or must I wait until the end of February, as advised by

some bee-keepers? 2. Could I feed my bees in skeps now by placing small pieces of candy just inside the entrance of skep? 3. Would medicated syrup made last autumn be fit to give bees this coming spring, or must I make fresh? —PERCY LEIGH, *Beemount, Stoke Prior, January 23rd.*

REPLY.—1. It is quite "safe" to give candy whenever feeding is really necessary, but we should not disturb stocks to place it below. If the candy is set over the feed-hole above the quilts and covered warmly over, no diminution of the warmth of brood nest need follow. 2. To feed in that way is not advisable, give the candy at the top and cover well up. 3. If syrup is free from fermentation and has not granulated, it only needs warming before use.

[709.] *Gorse as a Bee-plant.*—I have had to remove all my bees (a dozen hives) a distance of eighteen miles. I now have them on the borders of a very large common covered with acres of gorse. Is the gorse a first-rate plant for bees? What colour is the honey, and do they get much out of it? What month would it be in full bloom?—X. Y. Z., *Swaffham, January 26th.*

REPLY.—Gorse is a useful plant for bees in early spring. If weather is mild it often flowers early in February, and continues to bloom for a long time. It is, however, mainly of use as a pollen-producer for promoting early breeding. As a honey plant it does not rank high.

[710.] *Entrances for Double Hives.*—1. I have been thinking that it would prove very useful if Mr. Wells would publish the information he has given in the *British Bee Journal* in a separate form, so that there would be no need to search through the *Journal* for it. What do you say? 2. I am making a double hive, and propose to make half-inch holes close together in the *inner* wall of the front of the hive for the bees to enter by. The outer wall and packing behind will thus form a porch, and the holes, whilst allowing of free ingress for the bees, will prevent mice and toads from entering, and might also be a protection against robbing. As I am only a novice in bee-keeping, I shall be glad to know if there is anything wrong in my idea. The holes would be level with the alighting-board.—FRANK R. SELL, *Cornwall.*

REPLY.—1. We fancy Mr. Wells has no idea of publishing his views in pamphlet form. 2. The plan of entrance you propose would not answer at all well, nor is it suitable to the system of working on the double-queen method. Mice and toads are kept out of hives by making entrances three-eighths of an inch high.

[711.] *Parallel v. Right-angle Frames—Thickness of Bottom Bar.*—1. Which is the best way to use frames in a bar-frame hive, from back to front, or from side to side? 2. Are all standard frames made one-eighth of an inch thick at the bottom? As the one-eighth of an inch bar bends when the frame is being wired, would not the bees accept them as readily if the bottom bar was the same thickness as the top? —F. HOWELL, *Waterloo, Dorset.*

REPLY.—1. We prefer frames hanging at right angles to entrance, but, as opinions differ on the point, we do no more than express our personal view, without declaring that it is the best. 2. Bottom bars of the standard frame are one-eighth of an inch thick, but so long as the *outer* measurements of the frame are preserved, there can be no great objection to using a half-inch bottom bar, which latter is strong enough for all purposes.

Echoes from the Hives.

Beemount, Stoke Prior, January 23rd.—Happy to say that I found my bees flying very freely to-day from my two skeps and bar-frame. It was very gratifying and encouraging to hear their hum, which was almost as great as in the honey season. Only once before this year have I seen so many of our little favourites on the wing, and that was Friday, 13th inst., notwithstanding snow was lying thickly upon the ground, and I had as I thought the entrance of the hives sufficiently shaded. After having been confined to their hives for at least a month, these cleansing flights must be very beneficial. That we may be blessed with genial weather during next month, the same as we were February 1891, is the earnest wish of—PERCY LEIGH.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JOHN WYNNE (Waverton).—The number of the *B.J.* containing the suggested syllabus for use of lecturers may be had from this office for 1½*d.* in stamps. The lantern slides are the property of the B.B.K.A. Write to the Sec., Mr. Huckle, Kings Langley, Herts, for the terms on which they may be hired.

J. JONES (Pinner).—*Removing Bees.*—They should have been moved before the late frost ended. As it is, however, we should take first chance after they have been confined to their hive for a week or so, and alter the hive's appearance as much as possible by placing some obstacle about the entrance which the bees will notice. After they have flown a few times the hives may be restored to their original condition.

W. MANNING (Northampton).—*Size of Shallow Frames.*—The dimensions of the shallow frame are exactly the same as that of the "Standard" frame, less three inches of its

depth. The "Standard" top bar is seventeen inches long.

P. E. M. (Sussex).—*Treacle for Bees.*—Neither treacle nor "golden syrup" is at all suitable for bee-food. We have known bees utterly refuse to touch treacle, and if they would take it we have little doubt that dysentery would result.

GEO. DUNKLEY (Harpenden).—*Protecting Cows from Bees.*—1. Read reply to J. Jones. 2. We should place the protecting fence as nearly three yards away from the hives as possible, not that a cow receives serious harm from an odd bee-sting, but it causes them to run about very wildly if stung.

R. HAMLYN-HARRIS.—*Mildewed Pollen in Combs.*—If the pollen is only mildewed, and not so hard as to be unfit for use, the combs may be sprayed with salicylic acid solution, which will destroy the fungi.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

British Bee Journal and Bee-keepers' Record.

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WANTED.—Will any of our Readers supply us with the present addresses of S. S. Goldsmith, Parkstone, Dorset, and A. Green, Selston? Address EDITOR, *B. B. J.*, 17 King William Street, Strand, London, W.C.

WANTED.—A Gardener who understands Bees. Good references. Married preferred. No encumbrances. Good Cottage and Wages. Address G. FLOWER, Stoken-church, Tetsworth, Oxon. 2

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THE DEPOSIT SYSTEM.

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1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER," *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee-appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

(*Continued from page* 42.)

THE "WELLS" HIVE.—It is easy to see, from the announcements already made in our advertising columns, how great is the interest expected to be taken in this hive in the coming season by bee-appliance manufacturers, who, next to ourselves, have probably a better opportunity than any persons we know of for judging in what direction bee-keeping opinion is drifting. But it should be known that, so far as our own knowledge goes, there is no one hive on the market which can claim more than another any special right to the designation of "Wells" hive. Mr. Wells has made public his plan of working, and such of our hive manufacturers as are practical bee-keepers have no doubt been able to follow out the plan sufficiently to see what is required. As a matter of fact, however, Mr. Wells has no hive specially constructed for the carrying out of his particular method. His hives were made before he thought of working two queens in each, and consequently he had to adapt them to the altered circumstances. The special features his hives do possess, and which (according to what was said in explaining his system) are very important, are those of having at least fourteen or sixteen (eighteen are still better) Standard frames, at right angles to entrance, in the brood chambers.

The floor-board should also be so constructed that it may be lowered two inches or more in front when required; the entrance also must extend along the whole hive front. Then it should be borne in mind that the surplus chambers of ordinary size are placed singly by Mr. Wells just above the division-board dividing the two compartments of the brood chamber, thus allowing the honey-gatherers of both compartments to crowd into one surplus chamber. These chambers were then tiered up or storified in the height of the season. Of course, it would be advantageous at times to be able to use a surplus chamber large enough to cover the frames of both compartments; but it should not be forgotten that the main feature is to admit the bees of both queens into one surplus chamber, so that a double force of honey-gatherers are at work on the same combs. These points borne in mind, we have no doubt that readers will be able to choose a "Wells" hive likely to answer their purpose, or otherwise to adapt one of those they already possess as a means to the same end.

The trouble about swarms issuing simultaneously from both portions of a "Wells" hive, and the difficulty of parting queens, makes the following extract from the *American Bee-keeper* very opportune. It refers to parting two or more swarms which have "joined up" or "gone together." The article is headed, "How to Separate Swarms when they Cluster Together," and the writer, Mr. H. L. Jeffrey, says:—

"Under the above title, M. H. Dewitt, on page 68, May number of the *Bee-keeper*, has described the laborious job of pawing over two, three, or more swarms to find the queens, and then divide them up to equal as many colonies as you have found queens, or in such parts as suit the apiarist. I formerly practised that plan myself some fifteen years ago, but I learned an easier way by an accident as far back as 1878. It happened as follows:—One day, while caring for an apiary, a swarm came out, and, after it had clustered, and while I was getting the hive and stand ready for the bees, along came a runaway swarm, and in passing the tree on which was the cluster, the decamped swarm united with it, and before they were quiet another swarm came out and the three went in together. I began to 'sweat' in contemplation of my job, and being at a strange place (I was caring for the bees during the owner's

absence), I did not know where to find things quickly, so I improvised a large hive directly under the cluster by fastening two boards up edgewise on the ground, so that I could hang frames on them as in a hive. I hung in thirty or more empty frames, with a comb in every fifth frame, and then knocked down the cluster. I threw a thin cloth over the whole of them, and then attended to the hive that had swarmed. This being about noon, I gave them no further attention until perhaps three or four o'clock in the afternoon, when, upon lifting the cloth, I found that the bees had separated into swarms, and there was very little, if any, mixing up of bees from the different colonies. One of the hives that had swarmed contained pure Italian cells, and they were to be saved. Another was hybrids, and the other blacks. The circumstance, as it happened, gave me a chance to see how far they would separate. I watched them closely as a test. Since then, if two or more swarms go together, I never hunt up either queen, but hive them between two boards on the ground, and always have the bottom edge of the boards raised from the ground by a half-brick or stick of wood.

"I have sometimes separated two swarms by setting the hive on a stand on two seven-eighth square sticks. On the top of the hive I lay two more square sticks, and place another hive on them. Then two square sticks across that, and another hive on top, making three hives high, and in an hour or so each swarm is a separate hive. I have had to try the sticks so many times that I know it has worked, and I have never seen it or known it to fail, but I very much prefer the two boards in place of the hive. I then hive them by putting a hive over each cluster, and give two or three puffs of smoke, and let them alone till all is quiet, and then set each hive on the intended stand."

THE "BRITISH EXHIBIT" OF HONEY FOR CHICAGO.

Now that the arrangements connected with the preliminary exhibition of the above have been brought to a successful issue, and the collection of honey presented by the various exhibitors is in process of being re-bottled, labelled, and prepared for the final packing and dispatch to the "World's Fair," it may be well to remind our readers that some effort on the part of bee-keepers is due in order to relieve the Committee of the B. B. K. A. from any anxiety as to meeting the necessary expenses inseparable from the carrying out of so important an undertaking. Some readers have expressed regret that, owing to various causes, they were unable to render help in kind. Their honey was either "all sold" or they had "secured no surplus" last season. But they may none the less give useful assistance by contributing a small sum to the "Special Fund" started for the purpose of supplementing the very moderate money grant made by the B.B.K.A. towards the cost of the undertaking.

We, therefore, venture to make a fina, appeal for subscriptions to this fund, which so far, has not been so liberally contributed to as was hoped. The amount required, in addition to the sum already promised, is so small that a trifling contribution from each of a few hundreds of our readers would cover the whole cost, and so without further remark beyond saying that donations may be so sent to this office, marked "Special Fund," we leave the matter in their hands.

Donations already received or promised to special fund for defraying cost of the "British Exhibit" of honey, &c., at Chicago.

	£	s.	d.
Hon. & Rev. H. Bligh	0	10	0
Rev. Dr. Bartrum	0	10	0
Rev. E. Davenport	0	5	0
Rev. R. M. Lamb	0	5	0
Mr. T. W. Cowan	2	0	0
Anon.	2	0	0
Mr. Jesse Garratt.....	1	0	0
T. F. L. (Brondesbury).....	0	10	0
Mr. A. W. Harrison (money prize awarded in the competition).....	0	5	0

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of January, 1893, was 381*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

LECTURE ON BEES.

On Wednesday evening, February 1st, a lecture on bees, illustrated with lantern slides, was given at Potter's Bar by Mr. A. W. Harrison to a crowded audience. The Rev. F. H. Deane (vicar) occupied the chair, and the Rev. A. S. Hichens (curate) manipulated the lantern. The slides used were those of Messrs. Newton, lent for the occasion by the British Bee-keepers'

Association. Commencing at eight o'clock, the attention of the audience was retained for an hour and a half. After showing the importance of bees for fertilising fruit blossoms, &c., the anatomy of the bee was dealt with, and then the practical part of apiculture was fully explained. Discussion was afterwards invited, of which some few availed themselves. At the close the Chairman proposed a vote of thanks to Mr. A. W. Harrison for his exceedingly interesting and instructive lecture, which was heartily responded to.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-FLOWERS IN SMALL GARDENS.

[1327.] The question of planting small gardens with such flowers as are included in the term "bee-pasturage" is one which has been discussed almost *ad nauseam* for the last half-century or so; and the unanimous opinion of nearly all (one notable exception being Mr. Cowan) is that such labour is useless from the bee-keepers' standpoint. From that point, however, nothing but broad acres of pasturage will satisfy the bee-man's requirements, and if the pasturage is on lands other than his own, he evidently likes it all the better. There also seems to be a very general opinion that pasturage near the hives is always neglected by the bees thereof, while they eagerly seek that which is situated further afield. How unselfish and noble is that dictum of the bee-keeper! Can they be quite honest men who think thus with the interests of our science at heart? I fancy not; but rather that they are representatives of the *genus homo* whose only object in life is the all-absorbing race for wealth, and who have extremely sensitive organizations, susceptible in a very high degree to *metallic influences*.

There are, of course, very many votaries of our science who keep bees for the very love of one of the great Creator's lowly but supremely beautiful creatures, and it is to these benefactors of mankind that I now address myself. I do not for one moment say that bee-keeping should not yield some return for the labour bestowed on it—I quite agree that every man is entitled to the fruits of his toil; but what I do object to is that men should make our beautiful science (call it vocation, business, pleasure, or hobby) wholly subservient to the worldly gains to be got out of it. The first words of the modern bee-keeper are "How much money did you take?" "How much did it realise?" and "Does it pay?" But, as already said, there are many exceptions to this rule.

Well, now, to return to the subject of my heading, viz., bee-flowers, I do not propose to give full cultural details, as these can be found in the trade list of most seedsmen. My object is simply to induce cottagers and others to cultivate a few of the very many lovely flowers which produce more or less honey or pollen, and which would make many a now dreary back-garden an Eden by comparison, not only to those members of a man's family who are at home all day, but to the man himself on his return from work. He feels his heart lighter, and his own hard nature is mellowed by studying the humble flowers that can be grown and blossomed by the poorest as well as the richest. I find in my own neighbourhood that, once you get men to cultivate their little garden or allotment, and to interest themselves in its cultivation, they are practically changed men.

Being in some sense a working man myself, and not blessed with too much of this world's goods, my own practice is to buy all my seeds by weight, and as the seeds I mention below are very cheap, while a very small quantity of each makes quite a good display, I am able to give the overplus to my friends and neighbours, together with such little assistance as is in my power as to their cultivation, and I can safely say that it creates a feeling of good-fellowship, such as few can have any idea of, to say nothing of the many plants and flowers I receive in return. My greatest satisfaction, however, is when on my coming home from work, a friendly neighbour greets me with, "I say, old man, haven't your bees been busy in my garden, to-day!" Surely I am repaid, even in the *l. s. d.* sense, for now the honey-flow has stopped for a time from ordinary sources (as we all know it does during the season) my bees have the benefit of my neighbours' gardens being well stocked with honey or pollen-yielding flowers, with which I have been instrumental in supplying them. By this means, also, brood-rearing is maintained, so that when the next flow begins, all who keep bees get the full benefit.

The seeds I would advise being sown in our gardens are the following:—Collomia coccinea, borage, clarkia mixed, cyanus minor, erysimum, gilia tricolor, limnanthes douglasii, linum, mignonette, nemophilia mixed, œnothera bistorta veitchii, phacelia campanularia, rape, wall-flowers, nasturtiums, sweet peas, hemp, balsams (Canadian), sunflowers, beans (broad), scarlet-runner beans, peas, vegetable marrows. This list could be extended almost indefinitely, but the above are all honey or pollen-producing flowers, and have the advantage of being nearly all hardy annuals. They may be sown in the

open after the middle of March, and at intervals during the summer for succession, with the exception of runner beans (sow in May) and vegetable marrows, which should be sown in a frame or warm room, and planted out in the open ground in May.

There are in addition endless biennial and perennial flowering plants which may be planted to the same end. A patch of mustard, alsike and melitot clover, a clump of golden rod (*solidago*), a row of sedum spectabile, would also when in bloom afford much pleasure not only to the bees, but to their keepers. I have seen scores of bees busy on all these plants, as well as on crocuses, snowdrops, and many other bulbs, which might also be planted in autumn for the spring. Of course, other people's bees, as well as other winged citizens of the air, would come to a spot so well furnished with attractions.

My excuse for troubling you with this long letter must be my desire to help the bees, and to show some of your readers a way that, whilst reaping the benefit of their neighbours' lands and gardens, and saving the necessary outlay in cultivating the same, they can in a small way give back to their poorer brethren a small portion of such benefit, making their homes brighter and happier, besides affording a source of intellectual pleasure to the minds of many men whose interest in the subject of floriculture only wants arousing to lead them from paths and ways (to put it mildly) *less elevating*.

To bee-keepers I only say, try my suggestions, and I am confident none will regret having take the advice of—THE HEATHEN.

"SUCCESSFUL BEE-KEEPING IN A NUTSHELL."

[1328.] The following article was read by Mr. E. Gallup at a convention in America, and is copied from the *American Bee Journal* for March, 1871. Thinking that many readers of the *B.B.J.* may have not seen it, and seeing that the advice given is as good aud applicable to-day as it was twenty-three years ago, is my excuse for asking for its insertion in our *Journal*.—JOHN WALTON, *Honey Cott, Weston, Leamington.*

"The great secret in successful bee-keeping consists in knowing how to keep all stocks strong, or having them strong with brood in all stages, nursing bees and outside labourers at the commencement of the honey harvest. To illustrate this: A and B both have the same resources in their respective localities, or, we will say, that both reside in the same locality, and the honey harvest commences on the 1st of June, and that during the last half of July and the first half of August there is no forage for bees. June and the first half of July is good, as is also last half of August and the month of September.

"A commences in spring to stimulate, equalise, &c., and replaces all old queens or queens that do not come up to the standard of fertility with young prolific queens, allows but little increase—that is, providing surplus honey is the object. Here I will remark that, with young prolific queens and abundance of room, there is but little danger of increase, and on the first day of June, when the harvest commences, he has every stock completely filled with comb brood in all stages, nursing bees in abundance less than sixteen days old, honey-gatherers over sixteen days old, and they are in the very best possible condition to commence storing surplus honey immediately. Then, during the scarce time in the last of July and the first of August, stimulates and keeps up the fertility of the queens until the harvest again commences in the middle of August. His bees are then ready to commence storing surplus again as soon as the harvest commences. The consequence will be that A receives a profit in surplus honey, and pronounces the season a good one—in fact, meets every one with a smiling countenance, and is well satisfied that bee-keeping pays, &c.

"On the other hand, B commences with the same number of stocks in the spring, lets them manage themselves, and on the first day of June they are not in condition to store surplus, or, at least, but very few of them, and those he allows to swarm themselves to death, or, which amounts to about the same thing, when the honey harvest commences his stocks commence breeding very rapidly, and by the time his stocks get in condition to store honey, the harvest is done or nearly so, for it takes twenty-one days to hatch out a worker, and sixteen days more or thereabouts before they commence labouring outside, &c. The queens stop breeding entirely, or nearly so, especially so if the forage is entirely dried up or cut off. Now, when the honey harvest commences in the middle of August, his stocks instead of being in good condition to commence storing, have to go to raising brood again to replenish their stock of workers, for recollect that the brood hatched in June and July is very soon used up with old age, for the lifetime of a working bee is only from six to eight weeks during the working season. Now, you can readily see that B's stocks are expending all their force and energy to replenish their numbers again, and by the time they are ready to commence storing the harvest is past, and B has any quantity of stocks that he has to feed in order to carry them through the winter, or he has to double up stocks, &c., and when he comes to sum up the season's operations he has received no surplus honey, and his surplus stocks, or a large proportion of them, have either to be fed or doubled up in order to winter them, and the consequence is his face is somewhat elongated, and his conclusion is that the season has been a poor one for bees. He has certainly had bad luck, and he is ready to attribute his luck as he calls it to anything but his own neglect or carelessness. For example, the season has been a poor one for bees, or his climate is not adapted to bee-keeping, &c.

"A, with his management—in the same locality, mind you—has had good luck, as he

calls it. His stocks are all in excellent condition for wintering, no doubling up or feeding for winter, &c., for he has fed at the proper season to feed, for I hold it to be a fixed fact that the summer and spring is the proper time to feed. Keep your bees in the right condition to store honey, and when the harvest comes they will store it. There may be seasons and localities where bees have to be fed in winter, but I have never seen such when they were properly taken care of in summer. The whole secret of successful bee-keeping is contained in the above nutshell.

"The very first knowledge sought by the new beginner in bee-keeping should be the above."

NOTES ON SUNDRY BEE MATTERS.

[1329.] The honey crop gathered in West Cheshire last season was, I am sorry to say, a poor one. There were, it is true, a few days of excellent honey weather, but the general results were unsatisfactory from a bee-keeper's point of view.

A good honey harvest is the very thing to keep us talking of the pleasures and advantages of bee-keeping all through the inactive period of the year; but there are few of us who can regard with equanimity half-filled supers and light hives at the close of (as it generally is with us) a very brief honey season. Under these circumstances, there is nothing to be wondered at in young hands forming a poor opinion of the possibilities of bee-keeping as a source of pecuniary advantage to themselves.

There is plenty of scope for bee-keeping in my locality, but there are few bee-keepers. I can only account for this on the supposition that the rustic inhabitants are strongly impressed with a belief that bees are difficult things to manage, and unpleasant companions at the best. As far as lies in my power, I endeavour to show that these notions are not well founded; but my labours to this end have not accomplished much. Many would be willing to instal a few hives in their gardens, provided the management of them could be left to some one who—to quote the expression made use of—"understands bees." I entertain very poor hope of the success of the County Council's efforts to popularise bee-keeping as a minor rural industry, for I hear very little of the movement in Cheshire. The idiosyncrasies of rustic minds appear to me to be averse to the acquisition of knowledge; at any rate, our agricultural population do not seem in any hurry to avail themselves of the opportunities now given to them of obtaining the information which, to say the least, they are sadly in want of.

I have been much interested in your observation in last "Useful Hints" on the foul-brood remedies, and I cannot help remarking that the careful attention which this decidedly unpleasant subject has received in the *Journal* for the past two years is beginning to cause me uneasiness. The monster foul brood stalks the land, and has, so it appears, caused some to relinquish bee-keeping. Remedies and preventives are well enough so far as they go, but I hardly think they can be relied upon implicitly. The pest does its destructive work just at a time when, as it seems to me, the bee-keeper has the least power to combat it with "cures," for how, when bees can obtain food in the natural manner, can the bee-keeper assure himself his medicated food is reaching every bee or larva in the colony? With this in mind, it may be possible to account for reports of treatment of the disease not being uniformly satisfactory.

Mr. Leigh (1318, p. 46) asks for opinions of readers of the *B.B.J.* on a new hive which he has designed for use this year. Seven frames standard size is, in my opinion, rather small space for a brood nest when the hive is well populated; at least, I may say I have no difficulty in getting queens to well fill with eggs eight frames one-fourth larger than standards. In fact, the difficulty, as far as my experience leads me to believe, is to get the bees to rear all the eggs a queen lays. Even were ample space given within rational limits for the queen's ovipositing power, I conceive that the bees would control increase of population, the progeny of a particular queen, let her be ever so fertile, and I think Mr. Wells has completely baffled this instinct of the bees by his ingenious method of working hives—hence the success of the "Wells" system.—A. Donbavand, *Whitby Heath, Cheshire, February 5th*, 1893.

BEESWAX.

[1330.] Within the last year or two I have noticed the gradual decline, on the part of some of our prominent honey-show authorities, of the encouragement of wax-production. At not a few of our leading shows wax has completely disappeared from their list, while others offer such paltry prizes that, practically speaking, no one will trouble to compete. Bee-keeping, as I understand it, when properly conducted, either as a hobby or for profit, means *thrift*—economy practised in every respect; but when we think of the amount of wilful waste carried on season after season in not a few apiaries known to the writer, I conclude that our Associations must do something to bring about a remedy. After extracting is over, the cappings, broken pieces of comb, broken foundation, &c., are thrown out as not being of any further use. What could be more ridiculous, even admitting the local show does offer only a small prize for wax? Considering the commercial value of first-class beeswax apart from shows, it behoves every bee-keeper to save his honey cappings, crushed combs, &c., and at the end of the season have the same melted down into nice cakes. There may be some difficulty in selling honey, but none in disposing of good wax; consequently I consider our show committees should give such encouragement by offering liberal prizes, so as to induce their members to exhibit. Our shows are held annually for the purpose of educating

the public, and placing before them specimens of the work performed by our little friends, the bees. That being so, I think wax should figure prominently at all our best shows; and show committees, when compiling their schedules for the coming season, will do well to bear the above remarks in mind, and offer such prizes as to encourage even the humblest in our ranks to stage their cake of wax.

Since writing the above I made an examination of a friend's hives (seven in number) on January 26th, and, to my great surprise, found three of them dead. No doubt owing to the mildness of the season, more than the usual quantity of food has been consumed; hence I fear the mortality will be heavy this spring in many of our apiaries.—J. D. McNally.

THE BEE-DOINGS OF A VILLAGE SHOE-MAKER.

[1331.] Well, sirs, as the year comes and goes so my bee account runs, and at the close I tot up the items to see which way the balance turns, and if you think these few jottings possess interest for readers of the *Journal*, I shall be pleased, for I feel towards my *B.J.* as an old smoker does to his pipe. I should not like to be without it. I began the season of 1892 with eight stocks, having lost four during the previous winter. Two of them were very weak, but the others were about the two best stocks I had; and for the benefit of those disposed to act as I did, I will just tell how I lost them. When packing up for winter I scraped the top of frames clean and laid on the quilts without forming winter passages over the top of frames, or doing anything to allow the bees a passage over them; consequently during the cold weather last March these two lots died of sheer starvation, while one hive had six frames full of honey and the other had seven. It reminded me forcibly of the old adage, "Wit bought is better than wit taught." I don't buy any more that way if I know it. I had four swarms in the summer; one I returned to its old quarters and the others I put into empty hives from which I had lost the bees previously, and one swarm I bought for 10*s*. From these I had 151 sections and 136 pounds of extracted honey—total, 287 pounds. But we had almost no heather honey this year as a fortnight of miserable weather occurred just when the heather was at its best; so the bees could not visit it, otherwise my take would have been much larger. In 1891 year I got nearly all my take from the heather; but I am well satisfied as I have now eleven hives well stocked with bees and stores, I have twenty pounds honey left for sale and a quantity of sections not quite full for home use, and after paying all expenses I have cleared the pretty little sum of 8*l*. 6*s*. 7*d*. by my bees. But besides that I also took first prize for both sections and extracted honey at the Lynton district show, which added another 15*s*. to the earnings of my bees. This is apart from the pleasure gained, for it is a real pleasure to me to be among them, and they humming away so merrily and so busy at their work. I had to destroy one stock badly affected with foul brood, and it was the stock that gave me the largest return of any single stock I had (seventy pounds). I was much disappointed when I found that this stock—of which I was not a little proud—had foul brood. I never saw foul brood before, and, I cannot, for the life of me, make out how it got there, unless it was in the bees when I got them, for they were a driven lot from some old skeps. I find if you want to make bees pay you must look after them and at the proper time, and those who expect them to pay without taking any trouble ought to be disappointed. I am going in (on a small scale at first, as I don't believe in being too fast) for the "Wells" system this year, and I think the bee-keeping fraternity is very much indebted to Mr. Wells for the courteous way he has met the many inquiries made regarding the two-queen system. Our friend the "Village Blacksmith's" letter I thought savoured a little of sarcasm, for which I could not see much need. When I first read Mr. Wells' letter I thought that thirty pounds of wax was a large lot for a small apiary, but then, I thought, that depends on what system you work it on and the season also has a little to do with it as well. There is also nothing to be surprised at in Mr. Wells' statement about a swarm fourteen pounds in weight from such a hive as Mr. Wells describes. I had a swarm myself this last season from an ordinary single hive of twelve standard frames which weighed close on to nine pounds. Trusting that the year 1893 will be a good one for both bee-keepers and our worthy editors.—A. Delbridge, *Parracombe, near Barnstaple.*

SELLING HONEY BY MEASURE.

[1332.] The footnote to 1311 (p. 38) has caused me to think there must be some mistake in the reply that there is "well on for two pounds" difference in the weight of a quart of very dense honey and of an equal quantity of a very thin one.

My honey here has always been of a very uniform density, about 1·45, and the cubical contents of a pound of it about 19½ cubic inches. Now, a pound of water contains 27·72 cubic inches. It seems to me that there must be some honey of a much greater density than mine, and also some not much better than water, to confirm your statement above.

I feel certain it would be interesting to a great number of your readers to know the densities of some of the honeys throughout the kingdom.

I cannot see how a purchaser is to know whether he gets his half-pint of honey in his bottle any better than whether he gets his half-pound in a bottle, as it would be more difficult to measure than weigh when it is granulated. I agree with Mr. Marks when he says, "Give measure," and I say, "Give weight; none of

your fourteen ounces to the pound." I have used Breffit's sixteen-ounce bottles now for several years, and I don't believe I have given much overweight, nor *vice versâ*, as I have always found them very uniform. When I send my order for them, I mention that I want sixteen-ounce bottles, and I get them all right.

In bottling it up, we weigh a few to start with, to see how full they want to be, and you may then pour it into the bottles and rest satisfied that you are within a fraction.—MAN OF KENT.

[We thank our correspondent for calling attention to the above palpable error. The words should have been, "well on for *a* pound," not *two* pounds.—EDS.]

MEDICATING SYRUP.

[1333.] May I ask through your paper how your correspondent, W. B. Webster (1303, p. 28), would make medicated syrup? I find a great amount of trouble with syrup granulating. I see Arthur J. H. Wood (1306, p. 36) also gives the same advice, but leaves out the above. It would prove beneficial to myself and other young beginners to know how unboiled syrup is medicated. Thanking you for all the advice I have got from your valuable paper — G. H. TAYLOR, *Herts.*

SCENTING BEE-SYRUP.

[1334.] I offer a suggestion for the improvement of feeding syrup. A bee's sense of smell is more acute than most things'. Our ordinary syrup has no perfume. A dozen drops of essence of thyme in each quart would rejoice the hearts of thousands, and a sixpenny bottle would last for years.—T. W., *Elham Vicarage.*

ARE BEES DEAF?

[1335.] It was with much pleasure I read the very interesting letter from your able correspondent Mr. R. A. Grimshaw on this subject (1304, p. 34), and it afforded me the greatest satisfaction to note that his views are closely in harmony with my own; so much so that I should have hesitated to encroach again upon your valuable space but for the fact that a little explanation on my part would not be quite out of place.

First, as to the personal allusion to myself, let me say: I commenced bee-keeping merely as an adjunct to my favourite hobby of florticulture, but no sooner was my first hive placed in position than the "little ladies" became an all-absorbing pleasure, and a powerful desire to know all about them took possession of me. Books on the subject were the craze. Huber (I always think kindly of, almost reverence this name, and, considering his blindness from the age of nineteen years, it seems wonderful how he arrived at so many of the beautiful truths he did), Quinby, Cheshire, Cook, Root, Figuier, Lubbock, and others, not forgetting all that has been written by our genial Editors, whom I regard as the leaders of apicultural periodical literature, were obtained and absorbed, and, *inter alia*, I was struck by the unsatisfactory way in which most of the authors dealt with the question "Do Bees Hear?" especially by the way in which the author of *Ants, Bees, and Wasps* refers to it when he says, in so many words, that the order *Hymenoptera* are undoubtedly void of hearing.

My own experience serving to convince me that bees were not deaf, I determined to draw the attention of your readers to the fact that this interesting point was still in abeyance, and it struck me that if Mr. Grimshaw could only be got to let us know his "up-to-date" views, the whole bee community would be wiser. Hence my personal reference (*experto crede*) to Mr. Grimshaw, and his ready compliance proves that I had not over-rated his willingness to do so.

Secondly, with regard to my *nom de plume*: your correspondent has hit the mark in his last surmise; the Anglo-Saxon Haedhen or Haethen means one inhabiting or living on a haeth or heath, and is similar in meaning to the Latin *Paganus*, originally a countryman. I dwell on what was at one time a heath, and which still bears its old name, *i.e.*, Thornton Heath, Surrey, and the number of my habitation is 9 Heathfield Villas, so that Mr. Grimshaw will see that, if my *nom de plume* is not quite a happy one, it is not altogether inaptly chosen. As to my *nom propre*, you, Messrs. Editors, have that, and should your correspondent desire it, I have no reason to withhold it, save perhaps a feeling akin to bashfulness.

In passing, will you kindly allow me to point out a printer's error on p. 477 of your last volume, where my *nom de plume* was printed as "The Heather" instead of "The Heathen."

I am referred by Mr. Grimshaw to Mr. Cowan's book, *The Honey Bee*, which I have carefully read, and which, when coupled with the same writer's *Guide-book*, forms, in my humble opinion, the intelligent bee-keeper's *vade mecum*. Seeing that so far back as 1887 I knew very little of the fascinations of the apiary, I have not yet seen Mr. Grimshaw's article written at that time, though I hope to do so ere long.

I fully agree with Mr. Grimshaw's views as to the antennæ being the seat of the auditory organs, but whether, as Mr. Cowan points out, they are in the hollows of the antennæ, situated in small patches of ten or more at the lower parts of the joints of the flagellum, or at the base of the scape or basal joint, is not quite clear to me. From the antennæ of a worker-bee recently and carefully examined, I observe that this basal joint has what might be described as a complete socket joint, and is supported in the head of the bee by a most powerful set of muscles and nerve fibres.

Figuier, in the *Insect World*, says (p. 5),

"What is the use of the antennæ? Experience has shown that they only play a subordinate part as feelers, and have nothing to do with the senses of taste or smell. There is no other function for them to fulfil except that of hearing.

"On this hypothesis the antennæ will be the principal instruments for the transmission of sound waves. The membrane *at their base* [the italics are mine] represents a trace of the tympanum which exists among the higher animals. This membrane, then, will have some connexion with an auditory nerve."

This may be so, and the antennæ, as feelers, may only play a secondary part. I certainly would submit that their primary use is that of hearing, although I am much more inclined to Hicks and Graber's views, as described by Mr. Cowan, that the auditory nerves are situated in the hollows, also mentioned by Mr. Grimshaw above, in his letter; and from abler hands than mine I feel sure some conclusive proof will be forthcoming ere long which will settle the question beyond all doubt, and will remove the stigma of deafness from the whole order of hymenoptera. Mr. Cheshire (vol. ii., page 161) says, "We need no argument to prove that bees hear."—THE HEATHEN.

BEE-FLOWERS.

[1336.] "Inquirer," Norfolk (1322, p. 47), will find the "white sage" mentioned by Dobbie a Californian plant, botanical name, *Audibertia polystachia;* and that the Spider-plant, *Cleome pungens*, is of greater value than any of the *Cleomes*, for the huge drops of nectar call the bees up before daylight, and entice them to the fields long after dusk—at least, so says Professor Cook.

After a space of three weeks with snow on the ground five inches, the bees from six hives have so far pulled through well without the least trace of dysentery. On the 3rd inst., they were busy carrying in pollen from the jasmine and snowdrop.

I read in a former number that, two or three weeks back, you had severe frosts but had not heard of snow, so your experience must have differed from that of—SALOPIAN, *February 4th.*

[The only other *Cleome*, besides the one named above and *Pungens*, that is known to be a good honey-plant is *Cleome integrifolia* from the Rocky Mountains, and therefore called, by the Americans, Rocky Mountain bee-plant.—EDS.]

Echoes from the Hives.

Belmont, Canada, January 16th.—The winter is most delightful here; about fourteen inches of snow in the woods, and the mercury plays around zero point most of the time; blazing fires, lots of provender for all kinds of stock, Christian influences, peace and plenty, ringing bells, good sleighs, sleek horses, and all that makes our beautiful winter most enjoyable. My bees (eighty-three hives) in the cellar are doing well; they are as still as the grave. I hold that, if you can hear the vibration of one wing, that the conditions for perfect wintering are not all met, save and except only when they are clearing up and rearranging honey. My bees gathered honey-dew (what we call bug-juice) from golden willow last fall of a very poor quality, therefore they spotted their hive-covers at their last flight. They will need extra care this winter, but I am feeling confident of success.—S. T. PETTIT.

Tonbridge, Kent, January 31st.—Some of our knowing ones about the middle of last December prophesied that we were to have a sloppy Chistmas, but Jack Frost entirely altered that, and I am very doubtful whether our little bees had any dinner on Christmas Day. Anyway, skating and sliding was in full swing here on Boxing Day, and continued so for nearly a month, the sharpest morning being on January 4th, when there was twenty-seven degrees of frost, quite enough for us here in mid-Kent. But now about the bees. Mine seem to have come through the ordeal all right, with not near so heavy a loss as one might expect, considering they had no extra covering put upon them. They had a thorough good cleansing flight on Friday, the 27th of January, and again to-day, the 31st, and they won't take harm now if they do have to lay up for a fortnight; but, in my opinion, they were in a good condition for a month's rest, as they were flying freely a day or two before they laid up. Give them a dry hive, with plenty of food and a good queen, and I think you may chance the rest; although I agree with the writer of "Notes by the Way" that there is an advantage in having your hives stand so as to get the sun to shine upon the entrance in mid-winter and spring, and summer too, if you can get it. The theory that unsealed food in the hives causes dysentery does not appear to hold good with me, as I have several hives that have had unsealed syrup in them since November, and have at the present time, and I don't see any difference in these hives and those that were not fed at all, as regards the strength and health of the bees.—MAN OF KENT.

Whitby Heath, Chester, February 3rd.—Notwithstanding the cold weather of December and the early part of January, the bees have shown signs of activity two weeks earlier than last year. Vegetation also shows signs of life, and should the mild weather continue, the bees will shortly have supplies of pollen and honey from the willow catkins, which are in some cases well budded. On opening a hive a few days ago, I was agreeably surprised to find eggs laid and a patch of sealed brood.—A. D.

West Kent, February 6th.—After a long spell of rest indoors, my bees have begun once more to show signs of life, the warm sun having roused them up.—J. T. F.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

January, 1893.

Rainfall, 1·68 in.	Sunshine, 39·30 hrs.
Heaviest fall, ·49 on 9th.	Brightest day, 27th, 6·50 hrs.
Rain fell on 16 days.	Sunless days, 15.
Below average, ·57.	Below average, 37·9 hrs.
Max. temp., 49° on 31st.	Mean max., 37·6°.
Min. temp., 16° on 5th	Mean min., 29·5°.
Min. on grass, 9° on 3rd.	Mean temp., 33·4°.
Frosty nights, 22.	Max. barometer, 30·53 on 21st.
	Min. barometer, 29·46 on 29th.

All hives have wintered safely. Bees have been flying nearly every day since the 18th.—L. B. BIRKETT.

Queries and Replies.

[712.] *Mildewed Combs.*—1. Thanks for information *re* mildewed combs. Have tried the salicylic acid solution, but fear the pollen is too hard. What can be done in that case? 2. Will salicylic acid solution made last autumn be still fit to use this spring? 3. Can I feed my bees on artificial pollen in a kind of a dry-sugar feeder, to be placed inside the hive, or must I feed them from outside in the way described by W. B. Webster (*in a box out of doors*)? 4. Although there does not appear to be any foul brood in this neighbourhood, would you recommend me to wash my hives with salicylic solution before putting the bees in? 5. When would you advise me to start feeding on pollen, to encourage brood, &c.? They have plenty of stores and are pretty strong stocks.—R. HAMLYN-HARRIS, *Lincs., February 3rd.*

REPLY.—1. Combs full of dry, hard pollen are useless for the bees. 2. Yes; if kept corked it will last for years. 3. We have had no practical experience of pollen-feeding inside hives, but Mr. Howard, of Holme, says the bees take it well when given so, and he *should* know. 4. Yes; by all means. 5. About the end of March.

[713.] *Using Flour Candy.*—I purchased two lots of driven bees last year, joined them, and put them away comfortably for the winter in a frame hive, with several frames of honey and a seven-pound candy cake on top. On examining a few days ago, I find the bees have eaten nearly all the candy cake, and cover nearly six frames. They are flying every mild day, and seem very busy and healthy. What is the best thing to do now, so as to get them strong and healthy for the honey season? Is it too early to feed with syrup, or shall I give them candy cake with peameal mixed, as I am very anxious to get them strong as possible? When packing away the bees for winter, I made use largely of newspapers, folded square, and laid over the quilt, two or three inches thick, and then the other coverings. As a result, the bees seem better than at any other time since I have had them, and the hives inside seem drier. I am situate just over the border in Kent.—D. M., *February 3rd.*

REPLY.—Renew the candy cake as often as the bees take it down, but add no peameal till next month, at end of which syrup may be given.

[714.] *Super Clearers — Preventing Second Swarms.*—1. What do you consider the proper size at each end of a cone for the American style of a super-clearer, as I intend to make one? Would the same size be suitable for a hive roof? 2. Do you approve of shifting straw skeps, say, fifty yards after a first swarm to prevent second swarms, and to put the first swarm on the stool of the stock, and is it likely to be effectual?—JOHN MAIN, *Belivat, N.B.*

REPLY.—1. The point of cones should be just about large enough for two bees to pass. The width at base is not of much importance. The same cone may be adapted for both forms of clearer. 2. Yes. Though not always the means of preventing second swarms, moving the parent stock in the way stated is effectual in the majority of cases.

[715.] *Supering Swarms.*—1. Supposing the honey-flow to be good, within how many days after a strong natural swarm has been hived on frames of foundation should a rack of sections be placed on the hive? 2. Ought queen-excluder zinc to be used? 3. What are the answers to the above two questions should the swarm be hived on frames of empty comb instead of foundation?—T. B., *Middlesex.*

REPLY.—1. If only a limited space—say, seven standard frames—is allowed for the brood chamber the sections may put on a strong swarm when hived. Otherwise, about eight or ten days after hiving. 2. Yes. 3. The difference would hardly be perceptible.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

J. TURPIN.—There is no cause for alarm in the bees being a little disturbed after giving food. They will settle quietly down again in a day or two.

HAMPSHIRE BEE-KEEPER.—Do not feed for the sake of feeding. If the bees are well provisioned, it will do more harm than good to give candy at this season.

A BEGINNER (Middlesex).—If you can rely on the stocks being strong and healthy, the price asked is very low; but we should advise an examination by some one who understands bees before investing in so many hives.

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SITUATION required by Young Man in Garden. Understands Management of Bees. Address 7 Merton Street, Banbury, Oxon.

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1. **Method.**—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. **Deposits.**—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER, *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. **Honey on Approval.**—All honey will be sold by sample, which must be sent direct to buyer.

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5. **Bees and Queens.**—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

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GLEANINGS
IN BEE-CULTURE.

A JOURNAL DEVOTED TO BEES, HONEY, AND HOME INTERESTS.

EDITED BY A. I. ROOT,

MEDINA, OHIO, U.S.A.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 556. Vol. XXI. N.S. 164.] FEBRUARY 16, 1893. [*Published Weekly*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Nominations of members of the Association for election on the Committee for the year 1893 must be made not later than Tuesday, February 28th; forms for such nominations may be obtained upon application to the Secretary. The Annual General Meeting of the members of the Association will be held at the rooms of the Society for the Prevention of Cruelty to Animals, 105 Jermyn Street, W., on Wednesday, March 15th, at 3.30. Notice of motions for this meeting must be made not later than February 28th.

A *Conversazione* will be held after the close of the General Meeting.

The Secretary will be glad to receive subscriptions for the current year, which became due on January 1st.

JOHN HUCKLE, *Secretary.*

Kings Langley, February 7th.

SPECIAL FUND FOR CHICAGO EXHIBITION.

The following additions have been made to the list of donations to the above fund published last week:—

Mr. R. J. Bennett	£1	1	0
Mr. J. Gittens	1	0	0
Mr. J. D. McNally	0	5	0

NORTHAMPTONSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of the above Association was held on Saturday afternoon, the 4th inst., in All Saints' Schools, Northampton, Mr. A. L. Y. Morley, the President, occupying the chair. There were also present Mr. J. Francis, Mr. and Mrs. Ball, Mr. Atkins (Hon. Treasurer), and Mr. Manning (Northampton), Mr. J. Adams (West Haddon), Mr. Collins (Berry Wood), Mr. T. E. Adams (Culworth), Mr. Cox, Mr. Smith, &c.

The report for the past year presented by the Committee was as follows:—

"In presenting the tenth annual report and statement of accounts for the past year, your Committee have the pleasure of stating that, after providing for all liabilities due at the close of the year, a balance of 8*l.* 3*s.* 5*d.*, besides other assets, remain to the credit of the Association.

"Your Committee also submit the following account of the disbursement of the sum of 25*l.* granted by the Technical Committee of the Northamptonshire County Council:—Arrangements were made for eighteen lectures and seven out-door demonstrations in the town and neighbourhood, Messrs. Adams, Ball, and Truss being appointed to carry out the programme. There is every reason to think the result was satisfactory and beneficial to the bee-keepers and others who attended. The annual show was held at Delapre, in conjunction with the Northamptonshire Horticultural Show, on August 1st and 2nd. It was a good average display in both quantity and quality, and was very well patronised by bee-keepers and the public in general. The Rev. R. A. White (St. Giles'), Mr. J. Shaw (Moulton Park), and Mr. J. R. Truss (of Ufford Heath) acted as judges, and are here heartily thanked for their services."

Mr. Morley, in moving the adoption of the report, congratulated the members present on the satisfactory manner in which the work of the Association had been carried out during the past year. He also bore testimony to the value of the lectures and demonstrations in bee-keeping that had taken place in different parts of county, and observed that all must feel that the money had been well and wisely spent. Mr. T. E. Adams seconded the motion of the Chairman, which was agreed to.

The accounts were then read and passed. A hearty vote of thanks was also passed to the President for the great interest he had taken in the work of the Association during the past year.

In proposing a vote of thanks to the officers of the Association, the President observed that the excellent condition of the Association was due to their careful management. Mr. J. Adams seconded the proposition, which was carried *nem. con.*

A previous intimation to the Committee had prepared them for the resignation of Mr. Morley. It is with great pleasure we have to announce

that, through his influence, D. C. Guthrie, Esq., M.P. for South Northamptonshire, has kindly consented to fill the chair during the ensuing year.

The following officers for the coming year were elected, viz.:—Hon. Secretary, Mr. R. Hefford (Boughton); Hon. Treasurer, Mr. G. E. Atkins (Northampton); Hon. Auditor, Mr. J. Francis (Northampton); Committee, Rev. J. Phillips (Weston Favell), Mr. A. L. Y. Morley (Great Brington), Mr. J. Francis, Mr. Manning, and Mr. and Mrs. Ball (Northampton), Mr. J. R. Truss (Ufford Heath), Mr. Collins (Berry Wood), Mr. J. Cox and Mr. J. W. Hayward (Badby), Mr. C. Cox (Brampton), and Mr. T. E. Adams (Culworth).

After some general conversation on subjects connected with the welfare of the Association, a discussion took place as to the honey resources of the county in comparison with other districts, in regard to the production of comb honey in sections, and, in order to solve the question, a resolution was adopted to offer special prizes at the annual show next August for sections, open to all, and duly advertised in *B.B.J.* By this means the Committee hope to draw exhibits from all parts of the kingdom, and thus allow a comparison to be made side by side with the best sections produced in this county.

A vote of thanks to the Chairman concluded the proceedings.

EXAMINATION OF HONEY BY DIALYSIS.

[*On page* 197 *of "B. B. J." for* 1891 *we gave a translation of the researches of Dr. Oscar Haenle on analysis of honey. Experiments have since been carried on which confirm his conclusions; we therefore now give a translation of an article that has appeared in the "Alsace-Lorraine Bee Journal" by A. Sendele, head of the Chemical Laboratory of the Apicultural Society of Heidelberg, which throws further light on this subject.*]

"Up to five years ago a thick mist hung over the chemistry of honey." Such were the words pronounced by Dr. Haenle, in his report to the Apicultural Congress held in Strasburg, in 1890, at which I had the pleasure of being present. The conclusions arrived at by Dr. Haenle are, in my opinion, of the greatest importance to bee-keepers, because, if his arguments are well established, one of the greatest and most important results may have to be noted in the progress of apiculture. But I said to myself, "How much time will have to elapse for the practical application of the theory of Dr. Haenle to become general?"

The Apicultural Society of Alsace Lorraine must already be thankful for the results of this theory, which have allowed it to reduce to a minimum the production and sale of certain manufactures of artificial honey. The result will be a larger and more certain demand for products that are pure and unadulterated, and perhaps also a rise in their price.

But apiculture in general cannot rest satisfied with the present state of affairs. The numerous apicultural societies will not be of advantage till each has its own laboratory where honey of various qualities can be submitted to chemical analysis.

If bee-keeping in all countries were provided with scientific apparatus which would permit of accurately demonstrating that all falsification of honey can be recognised with absolute certainty, the result would be undoubtedly of the highest importance.

Up to the present this was impossible, and all we can say is that we have no law which permits the commerce in artificial honey, when this product is stated as such, or which declares more explicitly "that only the product extracted from flowers by bees can be called by, and sold under, the name of honey."

These considerations induced me, as president of a society of bee-keepers numbering 200 members, to endeavour to master the whole of the subject connected with the chemistry of honey, and which is necessary to put the theories of Dr. Haenle into practice in our Society. I made my studies in the laboratory of Dr. Haenle, with his kind permission, and after a short time I left the school of chemistry, satisfied that I was fit to undertake myself the analysis of honey.

From this time I occupied myself constantly with this interesting work. I have, up to the present, analysed upwards of a hundred samples of honey,* derived from different parts of Germany or abroad, and *the more I examine and apply Dr. Haenle's theory, especially to honey adulterated intentionally, the more I am satisfied of its value.*

But a new theory can only be established in opposition to one already accepted. The partisans of the old become the opponents of the new, and Dr. Haenle has found strong opposition. Particularly was this the case at the fourth Congress of the Central German Bee-keepers' Association, at Carlsruhe, in 1891, when Dr. Haenle's theory was violently attacked, but it came out of the fight victorious.

Dr. Haenle asked to have submitted to him any honey that they liked, which was done. Two samples were given to him. They were adulterated secretly by a chemist, M. Schrempff, of the Palatinate.

No. 1 honey adulterated with 30 per cent. of glucose.
No. 2 honey adulterated with 30 per cent. of cane sugar.

Dr. Haenle's report was as follows:—

Honey No. 1 is adulterated with 30 per cent. of glucose.
Honey No. 2 is adulterated with 30 per cent. of cane sugar.

The samples to be analysed were given in at the laboratory at 8.15, and at nine o'clock the

* I only give, later on, a list of about half of the samples of honey that I analysed.

result was known, and it was communicated by the Committee at its opening to the Congress. The result was received with applause by the assembly present.

An objection was raised that it was possible to detect an adulteration of this sort, but that it would be impossible to detect when bees were fed, during the honey-flow, with *sugar*, or with *so-called fruit sugar*, because the sugar is inverted in the stomach of the bees, and that, in consequence, the polarisation is the same as that of pure flower honey. M. Zwilling, Secretary of the Alsace-Lorraine Bee-keepers' Society, made such an observation, based upon an experiment made on a colony placed in a cellar.

I also wrote in the *Leipzig Bee Journal* (No. 9, 1891, p. 171) that there was one point to clear up, viz.:—

"Is it possible that, in feeding bees with sugar, or fruit sugar, to obtain, after it has passed through their stomach, a product capable of turning a ray of polarised light an average of $-30°$, this same as is done by pure flower honey."* It was also at the assembly that Pastor Glock made similar objections, viz.:—

"1. That sugar given in food is inverted.

"2. That aphidian honey contains much dextrine.

"In the first case no difference is shown by polarisation; but in the latter case, because the presence of dextrine is considered as a proof of falsification, many an honest bee-keeper, without being guilty, could be prosecuted for breaking the law. It follows that the theory of Dr. Haenle, however valuable it may be, must be accepted with caution."

It was under these circumstances that I deemed it useful, in the interests of both parties, to address the assembly and explain clearly the experiments that I had made in accordance with Dr. Haenle's methods during the two months previously.

I demonstrated in particular the fact that, according to my experiments, honeys containing dextrine may be natural; that notably, as far as regards polarisation, they act, before dialysis, like flower honeys adulterated with syrup or cane sugar; but that these natural honeys, although their optical properties are similar to those of adulterated honeys, after prolonged dialysis act like pure flower honeys, and after this dialysis they are optically inert, and it is here that the solution of the question of the analysis of all honey is to be found. I had up to this time analysed fifty to sixty samples of honey, and I herewith give a summary, showing the manner in which the honeys act with respect to polarisation and dialysis, first unmixed; second, before and after adulteration, either with fruit sugar or with cane-sugar syrup. All the analyses were carried out with Dubosq's solar apparatus (solution, one part honey and two parts of water), according to the following formula of Dr. Haenle:—

For flower honey.	For pine honey
$X = \frac{(P+p)\times 3}{10}$	$X = \frac{(P-p)\times 3}{10}$.

P = the polarisation of the honey to be analysed; p = polarisation, before adulteration, of the honey destined for this purpose; X = percentage of adulteration.

The average deviation of the honey sent for analysis was admitted to be $p = (-30°)$, that of pine honey as $p = (+30°)$. The method of recognising this sort of honey is indicated in Dr. Haenle's work.*

(To be continued.)

* Compare the analysis, particularly the experiments, with dialysis on the honeys, Nos. 49, 50, and 51.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1337.] Here, in West Berks, the weather i still mild. The old adage says, "Of all the months in the year, curse a fair Februer." Well, so far, it has been fair, though boisterous as March, and now we are close on Valentine's Day. This day is also a notable one in the estimation of the weather prophet—perhaps it may be only local—who says if the sun shines before twelve o'clock, winter is not half over. Though this seems a general belief amongst our rural neighbours, I must admit that I am sceptical on the point.

Notwithstanding the severe frosts of January, bees seem to have come through the ordeal all right. The general answer is that the bees have been on the wing lately.

Has any one tried the tablets of carbo-eucalyptine for disinfecting hives? I was talking to a chemist the other day *re* naphthaline, and he showed me a tablet of carbo-eucalyptine, and from the paper in which it was wrapped I gleaned that it is used in the Houses of Parliament as a germicide. It is a crystalline substance,

* We would refer our readers to *B.B.J.* for 1891, p. 197, for further particulars of Dr. Haenle's experiments with regard to pine honey.—EDS. *B.B.J.*

and has a piece of wire inserted in it by which it can be hung up where it is wished. It is also marked "Forest fragrance," but if the so-called "forest fragrance" would prove acceptable to our bees and spread death and destruction among the myriad of germs that infest some hives, it will be another point gained in fighting the almost invisible foe.

Storing Surplus (1316, p. 45).—Would not the bees build out the combs—after the blocks were removed—principally drone size, thus another season producing a larger number of consumers? Or does Mr. White use full sheets of foundation, and his blocks rest on floor-board of hive? From the drawing I should surmise that they hang on the bottom rail of frames, and that the mortice is cut twice the depth at one end of the block as it is at the other, to allow of its removal at end of honey-flow. The idea seems to me feasible, and worth a trial, and perhaps Mr. W. will give us his experience of the kind of cells the bees finish the combs when building the bottoms on after the honey-flow is over. This, I understand, is the method of treating new swarms in starting new hives. This practice proves the utility of the shallow Heddon hive, which received some attention and much praise from one of the gentlemen in charge of the Canadian honey exhibit at the "Colinderies" in 1886 (Mr. D. A. Jones), though for the past two or three years very little interest has been taken in the hive. Mr. White's idea could easily be adapted to full sheets of foundation by having the block in two halves and inserting full sheets of foundation in the frames, then placing the divided block half each side, and then by a simple wire staple at each end pressed one point into each part of block, holes having previously been made to receive the points. These could easily be removed afterwards, and the bees be practically obliged, when they continued their completion of the combs, to build according to the foundation.

Protecting Cows from Bees.—Allow me to add to your suggestions to Mr. Dunkley, to place his hives facing from the pasture, and also to stand some long bavins or hurdles endways, and secure same against wind-storms to the fence, and there will be no complaints of cows getting stung or sheep either, but I will not include horses. I do not know why bees have so much more antipathy to horses than to cows, but it is so. Then when he removes his surplus honey, use the super-clearer, not the cone in roof, but the one that allows the bees free passage to the brood nest below, and as a turnstile prevents return—*i.e.*, the clearers fitted with the Porter bee-escape.

I answer Mr. Taylor (1333, p. 57): I see no more difficulty in stirring the dissolved Naphthol Beta into unboiled syrup than into the boiled syrup, or it may be mixed thoroughly with the sugar before the boiling water is poured on the sugar. This will thoroughly mix up the medicine, and every ounce of the syrup will contain its proper proportion of the remedy.—W. Woodley, *World's End, Newbury.*

DO BEES HEAR?

"Rating" the "Heathen."

[1338.] Your correspondent (Mr. Jacques, 1317) takes me to task, not on the subject-matter of controversy, but upon two perfectly side issues, first by charging me with "rating" the "Heathen" on the choice of his *nom de plume:* and, next, because I repeat an utterance attributed to an atheist. I must have an unfortunate knack of not making myself plain, and certainly try my utmost to be clear; but, believe me, I, in my simple way, was absolutely trying to pay the "heathen" a *compliment*, certainly not "rating" him when I tried to guess why he so signed himself, and it seems, by this gentleman's letter on page 57, that I did happen to hit upon the true reason for his using that somewhat strange signature, meaning thereby "a dweller on the heath." So, if you please, we will let that part of the subject, along with Virgil, drop.

I introduced the illustration of the so-called atheist exclamation to "point a moral," and perhaps "adorn a tale," and the thing served its purpose. The story seems to be so familiar to your correspondent that I need offer no apology for using it, and I may add, "Se non è vero, è ben trovato" (If it be not true, it is well invented). By-the-by, I cannot give you the author of this saying either. The tale is common, and I always took it to be a *recantation* on the part of the said atheist. Perhaps by long search I might get nearer the source of the utterance, but no good purpose would be served. One ought to be allowed a little freedom; say, for instance, in speaking of the Quaker who said to an enemy swarming up the ship's side, "Friend, if thou wantest that piece of rope thou canst have it," and chopped it off with an axe; or of the Irishman who said, "If ye see seven cows lying down in a field, and wan of 'em's standin' up, sure that's an Irish bull!" Names are not necessary, the point of the story is the thing. Surely Mr. Jacques does not think I am *libelling* the sect who call themselves atheists when I associate them with what he designates "an absurd *canard?*" *I* think I am doing them *high honour* by crediting one of them with such a magnificent recantation, so pregnant, in my opinion, with the results of wise thought.

Now, without any out-of-place wrangling on theological matters, will you permit me to say, without an atom of cant, of any thinking bee-keeper who thinks he is an atheist, "God help him to some day come to the same conclusion as the man who said, 'If there were no God it would be necessary to create one'?"—R. A. H. Grimshaw.

WINTERING BEES AND IMPERVIOUS QUILTS.

[1339.] I have always found, like 'D.M. (713, p. 59), that enamelled quilts, with *plenty of wraps* above, make a hive much drier, instead

of damper, as many seem to imagine, I also use packed floor-boards and packed sides, with the result that the bees consume hardly any stores in the winter, and there are hardly any dead bees on the floor of the hive. The absence of dead bees may be attributed to their not getting chilled when on the floor-board, and being better able to remove the dead. This winter a hard frost set in on December 24th, and there was skating from December 26th to January 21st, with hardly a break.

On January 1st, at 2.45, the day being bright and frosty, I looked into the entrance of each of my two hives, with the aid of a hand-glass to flash in the light. In both hives the bees were clustering at the south-west ends of the frames (which cross the entrance). The cluster in each hive reached down to the floor-board, and the bees in it were slowly moving about. In one hive there were no dead; in the other, three, or perhaps four.

On January 15th, which was bright and frosty, I again looked into the entrances in the afternoon. In both hives the cluster reached down to the floor-board, and the bees were moving about in it as before. The cluster in both cases extended further from the ends of the frames. In one hive there was only one dead bee, though I noticed the day before that a good many had been put out on the alighting-board. In the other hive about two dozen dead had been deposited at the entrance (about three inches from the front frame), partially blocking it, as the entrance of this hive is only four and a half inches wide. A week later I raked out of the last-mentioned hive about one and a half-dozen dead, mostly deposited in the entrance as before. There were no dead in the other hive, but two on the alighting-board. The entrance of this hive is eight inches wide, and I have never found it necessary to rake out dead bees from this hive.

On February 4th, on peeping under the quilt, I found seven seams of bees in one hive and six in the other; also in each case bees in front of the first comb. It is six years since I began to use enamelled quilts in the winter, and since then I have never used winter passages or lost a hive or nucleus, with the exception of one nucleus the queen of which got pinched. I always winter two hives, and sometimes nuclei in addition.—T. F. L., *Brondesbury*.

THE WELLS SYSTEM.

[1340.] I am much obliged to Messrs. Webster and Wood for their hints about syrup-making. They will make all the difference, I expect, both as to the trouble and efficiency of feeding. I am preparing to give the "Wells" system a thorough trial; but I should very much like to know what is the opinion of some of your correspondents as to the reason of its success. One would have imagined that the presence of two queens in a hive would have utterly upset the organization and interfered with the working. Can it be that the two queens, finding that they cannot fight with each other, are stirred up by a spirit of emulation, and that that spirit is shared by their subjects? or is it the case that the worker-bees, freely going in and out of both hives, have a double stimulation imparted to them, first in one hive and then in the other?—A Sussex Rector.

SOUTH AFRICAN BEES AND BEE-KEEPING AT THE CAPE.

[1341.] The following letter, dated Dec. 26th, 1892, from a gentleman located at the Cape of Good Hope, has been handed to us for publication and reply. After reference to some purely business matters, the writer goes on to say:—

"I am not getting on well with my apiary, and ought to have had thirty or forty stocks, mostly from swarms captured in the adjoining forests; but, alas! I am now reduced to eight. This is owing to my stocks leaving, and hieing them back to the woods, and that, often, after they have been settled and breeding well in their new domiciles. They don't seem to have this trouble of colonies leaving wholesale in other countries, nor should it be here, I should say, *with proper management*. I have three or four stocks that I have had for three years, but many new stocks leave (though I give them combs of brood and stores when hiving) a few days after they have been got into the new hives. Some work away contentedly enough for three or four months, when, after hatching out their brood and demolishing their stores, off they go. Their hives are all that is desirable; nor are they unduly interfered with. Then, too, the fertile-worker plague would seem to be worse here than in other countries—but I will refer to this nuisance presently.

"As a result of these mishaps, my efforts at establishing an apiary here all seem to end in failure. I have only some eight stocks, where, but for wholesale desertion, I had hoped soon to have reached 100, when I should have had no difficulty in getting up to 1000. Well, thinking to make up for past losses, I began, the other day, to divide the few settled stocks I still have. I first tried to divide one pretty strong stock. Before commencing operations, I read my bee-books, and found that most of them say that a couple or three combs of brood, *with the queen*, must be placed in the new hive *on the old stand*, the others moved to *another part of the apiary*; and, further, we have the assurance "that they will at once set to work to raise a queen." These directions I followed out to the letter, and fed both old stock and swarm with candy on top of frames.

"Result:—A few days after making the swarm, I found the queenless half of the old stock gone! They had enjoyed the candy, bred out their own brood, *made no queen-cells*, and neglected to keep the eggs and brood I gave them warm, so

that I found the brood all dead in the cells! Two or three months since I was served precisely the same way.

"Now, what can possibly be the reason for all this strange difference between our bees and your home sorts? I do wish to goodness you could help me, even if only with an opinion. At the present rate of going on, I despair of ever establishing an apiary here.

"*Later.*—The following is an extract from a letter just to hand from a gentleman living in another part of the colony upon this subject:—'One farmer here, who has a number of hives, tells me that he has known bees to leave their hives without, apparently, the slightest reason, and when the country hereabouts is covered with flowers. He says they go to the mountains "for a change" for a few months, when they return to their hives again.'

"Strange, is it not? The great question is, how to cure them of this rambling propensity. Is it due to inherent wildness of nature, and which must be bred out of them, think you? Would re-queening with queens not raised under the swarming impulse effect this? I hardly think so. For instance, I had a stock which I brought from the forest in a section of a hollow tree. They stayed, and worked away contentedly for a year or more. Then I transferred them into a bar-frame hive. They still did well —*until I attempted to make artificial swarms from them,* when the *made* swarm raised no new queen, but instead, a fertile worker established itself. The *old* stock took the sulks, and refused to work; so, finding that no eggs were being laid, we destroyed the queen, hoping and expecting they would raise another. Next day off they went, and that without a queen! Their not working simply meant that they were waiting for most of the brood to be hatched out prior to departure. In fact, *they don't like being disturbed.* Old settled stocks, which I have had three years, stay with me and work all right. But, if I attempt artificial swarming for increase, there's always the risk that *both lots clear!* Why is this trouble not experienced in other countries? In America, for instance, where the wild bee has only recently been domesticated, such things *ought* to happen. But not a word is said of such troubles in Heddon's work.

"Four days ago I *reversed* the directions for making swarms, and put the *queenless half* on the old stand, and removed the old stock with queen. Result:—The lot on the old stand are, I am glad to say, making queen-cells; but the removed half, *with* the queen, are preparing, *as usual,* to quit! Not a bee comes out or goes in, nor are eggs being laid. I know well enough what it means: they have decided to be off, but I have checkmated this lot by clapping a strip of queen-excluder before the flight-hole.

"I tried cutting the queens' wings with four stocks. Result:—Three of them crawled out after their flitting subjects and got killed, trodden on, and carried off by ants. So *that* won't do. These stocks, after throwing them back in the hives two or three times, stayed, but soon had fertile workers at their head! I tried the directions given in *the books* to get rid of this pest—took them, one 200 yards off, one 100 yards off, and one 50 yards off from their hives, and shook them off the frames, expecting to see them return to their hives, and the fertile worker left behind. Bosh! Misleading bosh! in every case they clustered on low shrubs and bushes *close to where I shook them off,* and next morning I went and fetched them all home again, and bundled them, in my despair, into the hive of a weak stock with a queen at its head. Result:—I have a seventeen-frame box full of bees! They are working well, and, from the regular way in which the eggs are being deposited, I have no doubt but that the queen is boss, and the fertile workers *non sunt.* Yet books tell us the fertile workers will kill the queen.—S. A. Deacon, *Cape of Good Hope, December 26th,* 1892."

[A very cursory glance at the above communication will convince any one that the pathway to successful management with the native bee of South Africa is not strewn with roses, and we confess ourselves quite unable to comply with the request of the writer so far as a *reliable* opinion why such persistent opposition to the ordinary forms of modern bee-keeping is displayed by these bees. It is enough for us to read of the repeated failures described to decide what *we* should do under the circumstances. Years are too precious to spend in attempting to "breed out" a characteristic so fatal to success as that possessed by the bee referred to: and if apiculture is to be made to pay at all at the Cape, we opine it must be by the introduction of queens of such races of bees as are amenable to control. To designate the instructions given in bee-books as "misleading bosh," because they do not apply to a race of bees the habits of which the authors may have been entirely ignorant of, is, to say the least, not quite just; and our correspondent should bear the difference in mind, otherwise his books will retard, instead of helping, him in his work.

Had he told us what race of bees he was dealing with we might, perhaps, have been able to throw some light on the subject. For instance, if the wild bees of the forest dealt with are of the variety known as *Apis unicolor,* we need not be surprised at the results detailed. These bees require very special treatment to render them at all manageable, and only a very few have been able to deal with them successfully. Anyway, there can be no doubt but the bees are at fault, otherwise, there would not be bee-keepers in South Africa, who obtain very successful results from bee-keeping, as we know for certain there are.—Eds.]

A NATIONAL SHOW.

[1342.] The impetus given to bee-keeping during 1892, by the so-called "National" competition, and the enthusiasm with which bee-

keepers from all parts of Britain entered the lists for honours, should be evidence sufficient, I think, to induce our parent Association, the B.B.K.A., to hold a National show during 1893, and if the undertaking proved a success, it could be held annually afterwards. In this way, bee-keepers throughout the British isles could meet in friendly rivalry, and those championship honours, which not a few covet, could be decided. I have long cherished the hope of seeing a show thoroughly "National" in its character, and trust that hope may be fully realised during the coming season. To my mind, however, a national show proper would be wanting in completeness unless the judges were representative of the three kingdoms. From this remark it must not be imagined I depreciate the value of our English judges. Personally, I consider them in advance of our Scotch or Irish judges in the matter of honey judging: but I know a little of the feeling that exists among Scotchmen and also among Irishmen, who think English judges have a leaning towards the products of their own country, and *vice versâ*. An illustration of this may be found by consulting the list of competitors at the late Berks show, also the Chicago Show Competition: Scotch and Irish competitors are conspicuous by their absence, unless on a very small scale, at both these competitions. Our climates very so much, and this variableness causes so great a difference in the honey produced, that I think if a national show is held, the judges should be selected from different parts of the three kingdoms. Again, considering the great number of entries a national show would involve in a single class, and knowing that many of the samples sent in would be equal in merit, there should be at least ten prizes given in each class. At our large cheese shows, as many as twenty prizes are given in some classes, and this is only fair to the competitor whose tenth prize may only be a very little behind the premier samples, and recognition, no matter how small, is always acceptable. I trust our advanced bee-keepers will give their opinion on this subject, and I am also hopeful that any practical suggestions thrown out by those who are competent to do so will be favourably entertained by the B. B. K. A.—J. D. McNally.

[The establishment of an annual exhibition of bee-produce, whether designated a "National Competition" or by any other name, is what most bee-keepers would very eagerly welcome, no doubt; but it must be borne in mind that to suggest such a scheme, even with the best intentions in the world, is a very different thing from demonstrating, with any degree of reliability, a practical method of carrying it out. If a plan were laid before the Committee of the B.B.K.A., by means of which a couple of hundred pounds or so could be raised as a guarantee fund against loss, the idea would no doubt soon take practical shape, otherwise we fear the responsibility is altogether too much for the Association to undertake. Our own ideal of an Annual National Competition, would be one based on the lines of that held at the Colinderies in 1885, but the expense attending such an important undertaking will, we fear, always be a stumbling-block in the way of its fulfilment.—Eds.]

STANDARD JARS.

[1343.] Mr. Truss (1326, p. 48) says that what is wanted is a bottle to hold so many fluid ounces, and I should suggest ten fluid ounces, viz., half a pint. "A pint of pure water weighs a pound and a quarter;" therefore, half a pint weighs ten ounces. A half-pint bottle is no doubt what is spoken of as containing fourteen ounces, or nearly a pound of honey. If a larger bottle is preferred, three-quarters of a pint would contain about one pound five ounces of heavy honey, and perhaps such a bottle might be retailed at 1*s.*, with 2*d.* extra for the bottle, to be allowed if bottle returned.

It may interest your readers to learn that fifty years ago the price of run honey at Kirkcudbright was 8*s.* a quart, or 2*s.* for half a pint. This I was told by the daughter of the Rev. C. Gaskin, an enthusiastic Cumberland bee-keeper of days gone by.—T. F. L., *Brondesbury*.

MY EXPERIENCE AS A BEE-KEEPER.

[1344.] I commenced bee-keeping in June, 1889, by hiving a stray swarm, but was compelled to move to London on the first of July in the same year, which put an end to my first start. However, being a lover of country life, I embraced the first opportunity to leave London, which I did in December, 1891.

In April, 1892, I purchased a frame hive, stocked with bees, from an old skeppist near Ashford, Kent, he being anxious to sell it as he not understand modern plans, and had not opened the hive since the bees had been hived in it the previous year.

I next inquired for modern bee-keepers in the district, but failed to find any until our Hon. Secretary (Mr. Garratt) lectured at Ashford, which brought a few together. I hoped to be one working amongst them, but shortly after I had to remove to Maidstone, and not making the acquaintance of any bee-keepers here I have had to rely on my books and papers for all I know about the craft. However, though working single-handed, I have been going ahead and am now wintering six stocks of bees in frame hives, which are all doing well. I had a peep in the other day, and was surprised to find so much difference in the quantity of stores consumed; one hive had stores in every frame, while another had food in one frame only; in fact, I only just saved them from starvation. I gave them about six pounds of candy, which they are taking well.

The first stock I purchased gave me twenty-four one-pound sections, and ten pounds of extracted honey. A stray swarm which came to me gave me twenty-five pounds sections, and got

themselves a good store for winter. I purchased six skeps, from which I drove the bees, and made two strong stocks of them. I also purchased two frame hives in July which had been greatly neglected. My expenditure for the year was 11*l.* 11*s.* 8*d.*; my takings were 4*l.* 19*s.* 9*d.* Honey for home use, which was about thirty pounds, I valued at 6*d.* per pound, and very soon disposed of the remainder at 9*d.* and 10*d.* per pound.

My stock in hand stands me in 6*l.* 11*s.* 11*d.*, which comprises six good stocks of bees, twelve frame hives, six straw skeps, extractor, smoker, &c. Being within easy distance of Mr. Wells, I hope to visit him shortly, when I think I cannot fail to get a few valuable hints for the coming season. I am satisfied with my start as a bee-keeper, and wish all bee-keepers a successful year.—A Man in Kent.

LANTERN SLIDES.

[1345.] I much regret to say that I find that my lantern slides on bee-keeping have been copied and offered for sale at low prices by a clergyman who has occasionally advertised in this journal, and to whom I have supplied a complete set of my slides.

A lecturer to a County Council, who had purchased a number of slides from this gentleman and was dissatisfied with them, sent me on nine for identification. They were all direct photographic copies from my orginal subjects, but very badly executed.

It is not that the sale of photographic slides is a matter of importance to me, but the advertiser also hires out slides, and, if the ones I saw are a fair sample of all, their exhibition is likely to bring discredit on my work, for if my subjects are recognised, it is only natural to suppose that I am responsible for the making of the slides.—Alfred Watkins, *Hereford, Feb. 11th.*

[The practice of which our correspondent complains is a most reprehensible one. It is not generally known that any one making copies of engravings, photographs, or illustrations belonging to others is infringing the Copyright Act, 5 and 6 Vict. c. 45, and is liable to be sued for damages. Drawings, illustrations in books, and photographs are the property of the author or publisher, and cannot be copied without permission. If done without permission it is called piracy, and the damages which a plaintiff would be entitled to recover would be the profit which the plaintiff would have made from the sale of so many additional copies. This does not apply to journals or serial publications, the owners of these being the proprietors of the copyright, and not the author of the articles, unless an agreement is made. Therefore, any drawing made for the purpose of illustrating any article in a journal is the property of the journal, and the owner can make what use of it he pleases without the author's consent. A copyright need not even be registered until an action is commenced, but an action could not be maintained without registration at Stationers' Hall. We think the law on this point is not sufficiently known, or we should not find illustrations copied from books so frequently in catalogues without the author's permission. Our correspondent's remedy lies in an action, but as we presume he only wants to put a stop to the practice, it is possible that this publicity will have the desired effect. —Eds.]

HONEY FOR CHICAGO.

[1346.] "Honour to whom honour is due"—*Suum cuique*—was a favourite motto of the late Sub-Editor of the *B. B. J.* (Mr. Henderson), and when I see that the honey I contributed to the above was "Highly Commended," I am constrained to tell you that I purchased it from Mr. R. Dutton, Terling, Witham, Essex. I had none of my own. So to him is due the credit so far as the "H. C." is concerned.—R. A. H. Grimshaw.

Queries and Replies.

[716.] In thanking you for reply to No. 705 (p. 39), may I ask the following questions? 1. One of the hives I inquired about before was blown over about a week ago, and all the combs broken up but one. There were also a great number of bees killed, but the day happened to be dry and not very cold, and so, observing that there were a fair number of bees still alive, I gathered up the broken combs at the bottom of the hive and tied them in the frames with tape. Should I do anything more? 2. There are still a great many dead bees in the bottom of the hive; will there be anything wrong with the queen, else why are they so long in carrying them out?—R. G., *Renfrewshire, February 6th.*

Reply.—1. No; beyond feeding the bees, keeping them as warm as possible, and removing the tapes when the combs have been secured by the bees, nothing can be done. 2. You should remove the dead bees by means of a hooked wire, not inflict upon the unfortunate survivors the labour of carrying them out.

[717.] *Exhibits at Shows.*—1. Are hives inadmissible at shows if they are not adapted to standard-size frames? The few schedules I have seen make no mention of this matter, but it occurs to me that there may be an unwritten law to rule unconformables out. 2. Why must prices be affixed to all exhibits of appliances for bee-keeping at the Royal Agricultural Show? Does not this rule keep out private exhibitors? A person might have something to show and yet not want to offer it for sale.—A. D., *Chester.*

Reply.—1. Yes, unless the schedule specifies to the contrary. It is, however, open to doubt whether prizes would be likely to go to hives with other than "standard frames" in the brood

nest. 2. The rule of the "Royal" show requiring that prices be affixed to exhibits only applies to special classes. There is nothing to prevent exhibitors showing articles "not for sale," special classes being provided for such.

[718.] My bees came out in such numbers last Monday that the gardener thought they were going to swarm. I have three hives, but it was from one hive that they came out strong, the two others only having a moderate number flying round. 1. Do you think these need looking to? I don't care to disturb them, unless absolutely necessary. 2. If you think they need food, shall I give them soft candy? The expert who saw the hives in the late autumn assured me they needed no looking to till the end of this month. He said they were in excellent condition. 3. Do you recommend me to buy the candy or make it, if you consider it advisable to feed? I shall be very glad to have your advice.—L. C. WYLDE GREEN, *Warwickshire.*

REPLY.—1. There is no cause for alarm in the appearance noted. 2. Of course, it is impossible for an outsider to say how the food in each hive stands, because, for various reasons, bees consume their stores in anything but even quantities. If any uncertainty exists, a slight inspection should be made. Soft candy is the proper food at this season. 3. If candy can be *well made* at home, there is no need to purchase, but it needs care in the process.

[719.] *Sowing Bee-plants on Railway Embankments.*—Running along the north-east side of my garden is a railway embankment, also other land belonging to the Company that is not utilised, on which I should like to sow some honey-producing plants. I have bought some clover seed (white Dutch); is it time to sow now for summer? I should also like something for spring and autumn; do you think gorse, clover, and heather would do? Please say when and how to sow.—W. A. SMITH.

REPLY.—White clover, when grown, as it usually is, along with rye-grass, &c., is sown in spring; but it does not bloom much during the first year of its growth. Under the circumstances named above, spring is also the proper time to sow; but if the clover is sown by itself, autumn is the best time. As to the manner of sowing, you can do no more than scatter the seed about the railway embankment. A little seed of dandelion will also be useful. Heather from seed is out of the question. Gorse or broom can be raised from seed sown in March, but these plants do not bloom the first year after sowing, neither could they be grown on other people's land without permission, we should say.

[720.] *Dangers of the "Wells" System.*—I have adopted the "Wells" system, and shall be glad if you will explain one or two difficulties. 1. Is there not a great danger in this system of the bees forsaking one side of the hive, and both lots keeping in the other, resulting in the death of the queen and brood in the forsaken division? As both sets of bees would have the same smell, owing to the perforated division-board, the one set would be received by the others. 2. In stimulating, could I not place the feeding-bottle over the central division-board over the zinc excluder, so that both divisions could take food from the one feeder?—J. O. BEUTTLER, *Wellington.*

REPLY.—1. If any danger were likely to arise in the direction referred to, Mr. Wells would no doubt have experienced it, and in consequence offered some caution against such a contingency, which he has not done. 2. Bees are always best fed in the centre of the cluster, and, in stimulating a double-queened colony, we should use two feeders.

[721.] *Comb Foundation Broken Down.*—I have a hive of bees which thus far have come through the winter safely. They were put into the hive last August (from a skep) with frames and comb foundation. The comb foundation from three of the frames has fallen to the bottom, where it lies all rolled and apparently fixed to each other. What is the best thing to do? I might add that I know very little about bees, but I am very anxious, and, in fact, determined to learn and master the art of managing them.—BARNET, *Malmesbury.*

REPLY.—It is much to be regretted that the mishap was not found out soon after it occurred, when it might have been easily remedied. The best course is to remove as many of the frames of comb as are all right along with the bees into a spare hive, or a makeshift box, while the sheets of foundation are being got out. Should there be room to arrange the built-out combs at one side of the hive while the removal of the foundation is being effected, of course the trouble of transferring to a second hive will be saved. The help of a bee-keeper more experienced than yourself would be very useful in the above operation, if such was to be had.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

SOUTH BUCKS AMATEUR.—We recommend to our correspondent, *and to all interested in the subject of foul brood,* a careful perusal of the paper on foul brood which will appear next week.

J. M. G. (Wigtown, N.B.)—The "Fumigator" may be had from the inventor Mr. W. B. Webster, Binfield, Berks.

JOHN PERRY.—We believe the Somersetshire B.K.A. ceased to exist in 1887.

Special Prepaid Advertisements.

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THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

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In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. **Method.**—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. **Deposits.**—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER, *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. **Honey on Approval.**—All honey will be sold by sample, which must be sent direct to buyer.

4. **Bee-appliances.**—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. **Bees and Queens.**—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. **Goods in Transit.**—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. **Carriage.**—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

GLEANINGS
IN BEE-CULTURE.

A JOURNAL DEVOTED TO BEES, HONEY, AND HOME INTERESTS.

EDITED BY A. I. ROOT,

MEDINA, OHIO, U.S.A.

The above popular Fortnightly American Bee Journal can be had from the Office of the *British Bee Journal* and *Bee-keepers' Record*, 17 King William Street, Strand, W.C., at 5*s.* per annum.

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THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 557. Vol. XXI. N.S. 165.] FEBRUARY 23, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—A month of February without snow and almost without frost would seem to be a little unseasonable, and as such not quite welcome to the bee-keeper, were it not for the pleasure of once more seeing his bees busy on the wing, and the ever-welcome sight of the first pollen of the year being trundled in. The bee-man of old times anxiously watched for the first drone of the season, bearing in mind the adage, "Early drones and early swarms," but his successor of to-day thinks more of the early breeding, which means lusty and vigorous workers for the spring; consequently, his interest in every stock is sharpened and added to when busy pollen-gathering safely indicates that busy breeding is going on within. On the other hand, a warm day or two in February not unseldom reveals unexpected mishaps as well as those arising from carelessness or neglect, where the ominous stillness of a quiet doorway among many busy ones tells its silent tale of death, or impending death, within.

In view, therefore, of the risk of such contingencies as the above, we consider it very advantageous to have, during February, a week of warm weather, such as will thoroughly revivify the bees and rouse them into activity for a time. It also gives the bee-keeper an opportunity for making things *safe*, which otherwise might end disastrously, seeing that not only whole seams of bees, but sometimes full colonies, may perish almost within reach of food, for want of a natural rousing up, which will enable the bees to change their position on the combs, and cluster in the immediate vicinity of the food before the return of cold weather. Though we do not advocate feeding quite so early as this, it is best to err on the safe side and give a cake of soft candy at once to all stocks not known to be well supplied with food.

WEATHER FORECASTS.—A reader of the *B.J.*, who, a year ago, was good enough to forward the *British Weather Chart* for 1892, has again supplied us with a copy of the same publication for 1893. We gather from it a forecast of the "probable weather" for each month of the current year, and as no subject, we suppose, possesses more interest for bee-keepers than the weather, we present our readers with a condensed extract, just to show how exceedingly kind the proverbial "Clerk" is going to be to us. Passing over January, which has gone, we begin with

"*February.*—Mild and wet, with gales or snowstorms. Temperature, above the average.
"*March.*—A seasonable month. Temperature, low generally at beginning, but high at close.
"*April.*—A rather wet month. Temperature, below the average.
"*May.*—A wet and rather cold month.
"*June.*—A dry and warm month. Temperature, quite up to the average.
"*July.*—A warm month. Temperature, above the average.
"*August.*—A warm month. Temperature, high throughout, except last few days.
"*September.*—A wet and stormy month. Temperature, above the average."

October, November, and December we need trouble about, but it will be interesting to note how far the carefully worked-out astronomical calculations of "B. G. Jenkins, F.R.A.S.," will be verified or otherwise in the months to come. June, July, and August, if at all to "forecast," will, according to one of themselves, suit bee-keepers "down to the ground;" or, as we observed on hearing the remark, "Rather say *up to the top* of a four-story hive."

THE "WELLS" HIVE.—Quite a number of correspondents seem curiously oblivious of the nature of their requests for information when asking us to "give full directions for making a "Wells hive," or to tell them how certain "deviations from Mr. Wells'

plan, which occur to them as 'improvements,' will work;" or, "which is the best form of the Wells hive at present on the market?" and so on. Only a year or two's experience of working stocks in hives adapted to the two-queen system will enable us—or any one else—to give a reliable opinion on the subject. We must therefore refer our querists to the illustrations of "Wells hives" which will probably appear before many days in the catalogues or advertisements of those manufacturers who have given time and thought to the designing and perfecting of such hives as they believe will best fulfil the requirements of the system. Besides, it would be manifestly unfair for us to select, from among those advertised, one for special approval, to the detriment of others. We must also offer a word of caution in view of such mishaps as that mentioned elsewhere. In all cases—while "breeding-up" is in progress, and before the time when the bees of both queens are allowed to "mix" in one surplus chamber—a strip of wood should be firmly fixed above the lower quilt, and along the whole length of the perforated division-board, so that disturbing or removing the quilts on one side of the board cannot, by accident, displace those on the other. This is important.

For the rest, we will gladly supply any information in our power regarding either the hive or the system, but it should not be forgotten that, personally, we have had little more practical experience of one or the other than many who make inquiry of us. We must also beg of our correspondents to read up what has already appeared on the subject in our columns before asking for information which has been given several times over. It would be tedious reiteration not only for ourselves, but for readers also, to repeat answers which have been given again and again as we are asked to do.

We have also more than once besought correspondents to stick as closely to Mr. Wells' methods as possible in making trial of his system; because whatever may have been known before of the plan of working double stocks in one super, and however "old" the plan may be according to those who are unwilling to give credit where it is due, Mr. Wells is the first man who has made a conspicuous success of the double-queen plan of working, and brought into prominence a method which, as formerly tried, had, for obvious reasons, fallen into disuse.

NOTTINGHAMSHIRE BEE-KEEPERS' ASSOCIATION.

The annual general meeting of the members of this Association was held on February 11th at the People's Hall, Nottingham—Viscount St. Vincent, President, in the chair. There was a large attendance, including Mr. F. H. K. Fisher, Mr. P. Scattergood, jun., Rev. J. S. Wright, Messrs. J. Marriott, C. Redshaw, Warner, Gosling, White, Young, Wootton, Hayes, Baguley, Wilson, Meadows, A. G. Pugh (Hon. Sec.), and others.

Viscount St. Vincent, in opening the proceedings, said he was afraid he could not altogether congratulate them on the excellence of the honey season, which had not been quite so good as in some previous years. After all, however, the year had not been such a bad one for some of the members, at any rate. They had also had a grant given to them by the Nottingham County Council. His Lordship concluded his remarks by relating a few humorous experiences of his own at bee-shows.

The annual report stated that there had been an increase of membership during the year. The number of members on the books on December 31st, 1891, was 184, and on December 31st, 1892, 195, or a net increase of eleven members for the year. The Committee regretted that financially they could not report so favourably as they had hoped to do, there being a slight balance still due to the treasurer. The report also referred to the grant by the County Council and to the engagement of lecturers, who had addressed meetings at various places in the district. The report and balance-sheet were agreed to.

Mr. Wootton, after moving a vote of thanks to the retiring Committee, proposed that the following be the Committee for the ensuing year:—Messrs. J. Baguley, F. H. K. Fisher, M. Linley, S. W. Marriott, W. Poxon, J. T. Faulconbridge, C. Forbes, J. Rawson, sen., J. Finn, T. Simmons, S. White, G. Wood, and the District Hon. Secretaries.

The motion was unanimously adopted.

The following were also elected:—President, Viscount St. Vincent; Vice-Presidents, the Duke of Portland, Lord Newark, M.P., Councillor Sands, J.P., Mr. J. E. Ellis, M.P., Ald. Manning, J.P., Rev. Watkin Homfray, M.A., Mrs. J. E. F. Chambers, and Mrs. Hind; Auditor, Mr. P. Scattergood, jun.; Hon. Treasurer and Secretary, Mr. A. G. Pugh.

A hearty vote of thanks to Viscount St. Vincent, for his services as President, was unanimously adopted.

After the members had taken tea together, an interesting ceremony took place in the presentation of a purse of money to the Hon. Secretary, Mr. Pugh, who, about a year ago, sustained serious injuries on the railway.

Viscount St. Vincent, in making the presentation, said the members of the Society felt they would like to display their sympathy with Mr. Pugh, and they had taken this form of showing

that sympathy. It was a great pleasure to him to have the privilege of making this presentation, and he hoped Mr. Pugh would be long spared to act as their Secretary.

Mr. Pugh said the presentation came quite as a surprise to him. He was deeply indebted to the members for their kindness, and he hoped that he should always be worthy of their confidence, and that he would be able for many years to continue his connexion with the Society.

The distribution of prizes for best honey returns having taken place, Mr. R. A. H. Grimshaw, of Horsforth, near Leeds, delivered a lecture on "Foul Brood: What it is, and how to prevent it," and we hope in the near future to give a full report of the lecture in our pages.

A short discussion on the lecture afterwards took place, followed by a vote of thanks to Mr. Grimshaw for his interesting and instructive lecture.

The meeting terminated with the usual prize drawing, Lord St. Vincent giving a "Wells" and one other hive, and the Association a hive and an extractor, &c.

THE LATE MR. R. R. GODFREY.

It is our sorrowful duty to have to record the death of Mr. R. R. Godfrey, who was one of the pioneers of modern bee-keeping, and at one time prominently connected with the bee-keeping movement in this country.

Mr. R. R. Godfrey was born at Bluntisham, Hunts, in 1828, and commenced keeping bees in 1859; but it was not till 1873, after the *B.B.J.* was started, that he adopted modern hives and the teaching of this *Journal*. He was much impressed by the first Crystal Palace show, and, seeing the announcement of a large horticultural show to be held in Grantham, he succeeded in inducing the authorities to allow a bee-exhibition to be held in connexion with it. Mr. Abbott, who was then Editor of this paper, cheerfully gave him his assistance, and this show proved a success. After the show, Mr. Godfrey conceived the idea of forming a Bee-keepers' Association for Lincolnshire, and invited the Rev. W. D. Pennell, Mr. Bolton, and Mr. Brett to meet at his house in Grantham. The matter was discussed, and the Rev. W. D. Pennell was appointed secretary, and Mr. Godfrey treasurer. Mr. Godfrey took an active interest in the formation of this Association, which soon grew, and at one time numbered upwards of 300 members. Mr. Godfrey always considered that Associations should assist their members in the disposal of their honey, and with this object in view started an annual honey fair, at which the members' honey was disposed of. Mr. Godfrey worked with energy in the interest of bee-keeping, and did much for its development in the county of Lincoln. For several years he was a member of the Committee of the B.B.K.A., and frequently acted as judge at shows, and was a frequent contributor to our pages. Of late, after retiring from business, he settled in Cambridgeshire, and with failing health he withdrew from the prominent position he occupied in the bee-world. Many of the older bee-keepers will remember his kind-hearted generosity and willingness to help bee-keepers to the best of his ability. He died at the age of sixty-four, leaving a wife, son, and daughter to mourn his loss, and to whom we extend our heartfelt sympathies.

EXAMINATION OF HONEY BY DIALYSIS.

(*Continued from page* 63.)

What does the table on following page teach us? That all kinds of pure flower honey deviate to the left, and that, after several hours of dialysis, they no longer affect polarised light, and that pine honey, which deviates to the right (dextro-rotatory) when adulterated, has no rotatory power after a dialysis of from five to ten hours. Finally, that both sorts of honey turn the ray to the right the more they are adulterated with syrup or any other sort of sugar, and that in this case they maintain a rotatory power after dialysis.

In my opinion, the analysis of Nos. 49, 50, and 51 were most interesting. It is shown that the sugar syrup, No. 49, taken by the bees, and put by them into the cells and sealed over, after six weeks in the hive, gives a diminution of the deviation to the right of 40°. Without doubt, it can be assumed that the product has been inverted in one way or another. It must, however, be observed that during these six weeks there was a little honey collected. This is indicated, first, by the very yellow colour of the product, which was as clear as water previously; second, by the alteration in the taste and the aroma; and, third, by the diminution of the polarisation to the right, caused, most assuredly, by the sugar being mixed with pure honey, which turns the ray to the left.

However, all these analyses did not satisfy me. It will be understood that I was anxious to know what would be the results of Dr. Haenle's method applied to honey, of which the exact analysis was known.

On the 13th of October, 1891, I sent in the name of my father-in-law, M. Walther, a specimen of clear honey in sealed jars to the following gentlemen:—The Councillor of the Grand Ducal Court of Baden, Dr. Nessler, chemist at Carlsruhe; Dr. Amthor, at Strasburg; M. Rupp, at Carlsruhe; Dr. Barth, at Rouffach; Dr. Haenle, at Strasburg. The product was analysed in my laboratory before and after adulteration. This is the honey No. 52 in the table. After adulteration with twenty-five per cent. of glucose, there was a deviation to the right of + 47°. The result, therefore, according to Dr. Haenle's formula, is:—

$$\frac{(30+47)\times 3}{10} = 23{\cdot}1 \text{ per cent., which is}$$

approximately correct.

Results of Experiments on the Examination of Honey by Dialysis.

Number.	Samples of products.	Average deviation.	Percentage of adulteration.		Polarisation.		Percentage of adulteration found after analysis.
			With glucose.	With fruit sugar.	Of the honey before adulteration.	Of the honey after adulteration.	
		degrees	per ct.	per ct.	degrees.	degrees.	p. c.
1	Glucose, 10 % solution	+100					
2	Fruit sugar from Hattersheim (1 of sugar to 2 of water)	+45					
3	Fruit sugar from Sachenrödez and Gottfried	+90					
4	Honey from Schmitt, Sandhausen				−30		
5	„ „ Herre, Brötzingen				−17		
6	„ „ Kohler, Sandhausen				−23		
7	„ No. 5, adulterated with			15		+24	16
8	„ from Weikum, Heidelberg				−23		
9	„ „ Lammler, Gauengelloch				−24		
10	„ „ Gaul, Waldhilsbach				−26		
11	„ „ Weber, Sandhausen				−32		
12	„ „ Garbrecht, Heidelberg				−30		
13	„ „ Keller, Spechbach				−33		
14	„ „ Nebel, Dossenheim				−34		
15	„ „ Herre, Sulzbach				−20		
16	„ „ „ adulterated with		50			+140	51
17	„ „ Kaiser, chemist at Cairo				−16		
18	„ No. 15, adulterated with		25			+48	23·4
19	Swiss table honey, manufactured by Baldegger (solution, 1 part honey, 4 parts water)				+155		
20	Honey from Ersche, Wieblingen				−32		
21	„ „ „ „				−29		
22	„ „ „ „				−39		
23	„ „ Correll, Ziegelhausen				−20		
24	Fruit sugar (candy) from Hattersheim (solution, 1 of sugar and 2 of water)	+62					
	„ „ after dialysis of 10 hours	+23					
	„ „ „ „ of 20 hours, rotation stationary	+10					
25	Honey from Wetzel, Hirschhorn				−16		
26	„ „ Kall, Donauschingen				−30		
27	„ „ Runz, Ziegelhausen				−18		
28	„ „ Michel, Wabstadt, near Munich				−17		
29	„ „ Seefeld				−23		
30	„ „ Thalkirchen				−30		
31	„ „ Hess, Heidelberg				−32		
32	„ „ Sendele, 1888				−22		
33	„ „ „ 1890				−29		
34	Conifer honey from Damal, Steinach (Kinzig Valley)				+30		
	„ „ after dialysis of 5 hours				−0		
	„ „ „ 20 hours				−0		
	„ „ evaporated to one half				−0		
35	„ „ No. 34, adulterated with		10			+62	9·6
36	„ „ „ „		20			+105	22·5
	„ „ „ after dialysis of 15 hours					+7	
	„ „ „ adulterated with		30			+130	30
	„ „ „ after dialysis of 20 hours, rotation stationary					+10	
37	Honey from Parrang, of Wittzingen				−44		
38	„ „ „				−30		
39	„ „ „				−35		
40	„ Ding, Edengen				−32		
41	„ Fielder, Seblitz (Bavaria)				−24		
42	„ Sigle, Feuerbach, 1891				−43		

RESULTS OF EXPERIMENTS ON THE EXAMINATION OF HONEY BY DIALYSIS—(*continued*).

Number.	Samples of products.	Average deviation.	Percentage of adulteration.		Polarisation.		Percentage of adulteration found after analysis.
			With glucose.	With fruit sugar.	Of the honey before adulteration.	Of the honey after adulteration.	
		degrees.	per ct.	per ct.	degrees.	degrees.	p. c.
43	Honey from Sigle, Feuerbach, 1891				−28		
44	„ No. 43, adulterated with		10			+10	12
45	„ from Dr. Seng, Heidelberg..				−28		
46	„ „ Schöpflin-Läuger, analysis deferred ..				−5		
47	„ „ Neipp, Heimerdingen..				−33		
48	„ „ Société de Consommation, Stutgard				−36		
49	Solution of cane sugar given as food to bees ..	+105					
50	„ „ after 6 weeks in the hive in sealed combs	+65					
51	„ „ after 8 months in hive during winter, March 12th last..	+65					
	„ „ after dialysis of 10 hours ..	+9					
	„ „ „ „ 20 hours, .. rotation stationary..	+7					
52	Honey from Max-Pauly, Heidelberg				−42		
	„ „ „ adulterated with		25			+47	23·1
	„ „ „ after dialysis of 10 hours					+10	
	„ „ „ „ 20 hours stationary..					+8	

(*To be continued.*)

BEE-KEEPING AS TAUGHT IN SCHOOLS.

The following letter has been forwarded to us for publication. It has reference to a recent correspondence in a leading paper on the subject to which public attention has been lately drawn by Mr. E. D. Till, of Eynsford, Kent, viz., the need of an effort on the part of those dwelling in suitable places towards producing in our own country at least a portion of the enormous quantities of eggs, poultry, and honey imported from abroad. Mr. Till, who is a member of the Council of the Kent B.K.A., is an ardent bee-keeper and a firm believer in the advantages to be realised from bee-keeping, if pursued on intelligent lines, and his endeavours to confer a lasting source of benefit on the rural labouring classes seem in a fair way of meeting with well-deserved success.

The letter referred to is dated from Darmstadt, Germany, and reads as follows :—

"SIR,—Regarding your correspondent's remarks in the *Standard* of the 2nd inst. as to Mr. Till's plan, a remedy for the difficulty he writes of might be found in what the Government and the agricultural societies have done in this country. They at first encountered the same hindrances in their attempts to induce the small farmers and the country labourers to take up the rearing of fowls, geese, and other poultry, and the production of honey, &c. But the difficulty of finding people to instruct by personal example, which was much greater in this country, owing to the absence of the 'Squire' class, than it can be in England, and the opposition of the farmers to innovations — which arose, of course, chiefly, if not entirely, from ignorance — have to a great extent been overcome by inducing rural schoolmasters to become the desired mentors and models by turning their attention to these profitable means of earning an addition to their livelihood.

"In this country official suggestions are more or less treated as commands, and the very scantily paid schoolmasters were somewhat dismayed by what they looked upon as a new tax. However, intelligent, if modest, attempts at following the instructions given as to the rearing of bees, the growing of fruit, &c., brought their reward in the welcome shape of increased incomes, and now most schoolmasters are farmers on a small scale in many country districts in Germany. The schoolmaster's efforts were smiled at, but the fact that the schoolmaster's

fruit fetched the highest prices; the undeniable evidence that his hives kept growing and growing, and that, obviously, they would not do so unless the produce was remunerative; the phenomenon that not only had his few couples of fowls increased to several dozen couples, but that there was no gainsaying that (by judicious crossing of breeds) they were larger, plumper, and brought better returns than their own fowls, and, in addition, laid eggs one of which was equal in size to two that theirs laid, soon opened the farmers' eyes, and the agricultural missionaries found that their disciples rapidly increased in numbers.

"The results of this eminently practical method of instruction has, so far, been very satisfactory; though naturally it is a slow process, there can be no doubt that it is a sure one. 'Our fathers did thus, and lived; we do not see why we should leave the old track,' is practically the answer the would-be reformer receives when he strives to make a peasant see the advantage of moving with the times: the very idea that 'town people,' mere theorists, can teach country folk anything appertaining to farming is usually scoffed at. But seeing is believing. In a village it soon gets round that So-and-So is making a lot of money by his 'new-fangled ways,' and there is no quicker teacher than self-interest.—H. S. ALEXANDER."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

IN THE HUT.

[1347.] "On their own merits, modest men are dumb" (Colman); so, to follow out the hint contained in this axiom, I ought to let pass the remarks by Mr. Arthur J. H. Wood, of Ripon (1320, p. 47), anent the originality of the idea of feeding up before sending bees to the moors; but I cannot, somehow! I will not be *dumb*, but I will try to be *modest*. Mr. Wood says the idea is "as old as the hills, as it was recommended very many years ago in the *B. B. J.* to be adopted before sending bees to the heather. No one who understands anything about the production of heather sections omits to feed up well before sending to the moors." I am very glad this is so, whether the idea emanated from the "Hut" or not. I think, however, I ought to tell you what I said, and when I said it. On August 18th, 1887, "Our plan has been this year* . . . . to take the hives to the heather *heavy* instead of light, thus forcing the bees to store in supers." On September 25th, 1890, "Some time ago I advocated, in the 'Hut' the feeding up rapidly of brood hive just before taking bees to the heather, &c." On November 18th, 1890, I again advocated it, so if Mr. Wood can substantiate his statement, I shall deem it my duty to suitably acknowledge the prior right of some earlier arch-suggester of "dodges" to the credit of the idea, if any there be. It is a very easy thing to read one's *Journal*, and get ideas, then say, they "are as old as the hills." Give chapter and verse, please, or withdraw.

> "In all the trade of war, no feat
> Is nobler than a brave *retreat*.'
> BUTLER.

In the "Hut" I am always delighted to give credit to the originator of anything new and good. Such simple things as felt for quilts, vaseline for woodwork, and plumbers' scrapers against propolisation; full sheets of super foundation in shallow-frame supers, bits of stick for winter passages, and a host of other dodges, during the last seven years, when not original, have always been *acknowledged*.

> "Oh, monstrous! but one halfpenny worth of bread
> To this intolerable deal of sack."
> SHAKESPEARE.

Your readers will say, "Let us talk about mead." Only a twelvemonth ago I had a brewing (not a Bruin of bears) of this excellent stuff, made from mixed clover and heather, and I bottled it just a wee bit sooner than is the general custom. The result is, that I have something sparkling and effervescent—better than any champagne I ever had; and better still, I have to "get along wth it," for fear of the bottles breaking. *There's very little of it left*, more's the pity.

From "S. D., Cape of Good Hope" (1308, p. 37) comes the query, "Will bees eat herrings?" Yes, to all appearance; but in reality they only strip the meat away in order to get the atoms of various salts found amongst the fibres. Bees are very fond of tasty salts found on the edges of moist decomposition. One can easily verify this by watching them at their favourite drinking troughs and medicine shops.

"Inquirer" (1322, p. 47) asks for the botanical name of 'white sage,' recommended by Dobbie. *Salvia chionantha* is one of the two sages having white flowers. It is a two-foot high perennial, native of Asia Minor. *Salvia argentea* is the other, and is probably the one

* At my suggestion.

alluded to, because of the white, silvery down on its leaves.

Welcome W. B. Webster to our columns once again! "First in friendship, first in war." Many's the tussle we've had together, both by word and pen, but never an angry word, I am sure. Our very warmest bouts, when pointed with—

"Satire, would, like a polished razor keen,
Wound with a touch that's scarcely felt or seen."
MONTAGUE.

Your hint as to syrup-making shall not be condemned as being "as old as the hills." I note, by the way, that the user of this remark does not go (1306, p. 36) even so far as you do (1303, p. 28). He does not put the syrup on the fire at all (neither do you, by the way). We have only to advance a little further than he has got, leave the water out, and "there's your dry feeder." Will Mr. Webster excuse an old friend if I remind him that the object of boiling sugar as we are directed to is to convert it from cane into grape sugar, sugar being quite useless for man or bee until so converted? I am sure he only needs a reminder to see that we save the bee a lot of salivary trouble, and that he should not say, "Don't boil it. Never mind the vinegar, cream of tartar, or tartaric acid;" for it is the presence of these during the boiling that makes the inversion of the sugars. I hope he will forgive me thus criticising him, and believe me sincere in my welcome to him. I am not behind a *nom de plume* to him.

Query 712 (p. 59) asks if he can feed artificial pollen inside hives? Yes (and this idea first appeared in a "Hut" article); the idea is Mr. C. A. Abbott's. Lay an old comb on its side, put pea-flour on it, and by spreading with the hand the cells are soon filled, and the comb may be put next the honey-comb near the brood nest. I am not much in love with this method, for the moisture of the hive is absorbed by the flour, and the result is a hard, useless pellet, difficult to get out of the comb; in fact, the comb becomes quite useless. That, at least, is the Xperience of—X-TRACTOR.

"RESULTS" OF THE WELLS SYSTEM.

"THE REASON WHY."

[1348.] And yet another correspondent asks "the reason why" of the superior results produced by a "Wells" hive as compared with those produced by an ordinary twin-hive. Perhaps I may be permitted to inaugurate a discussion thereon by giving my notions on the subject? To simplify matters, let us suppose that at the beginning of April there is a hive of each kind standing side by side, and containing an equal number of bees. A peep into the hives will show that the bees of the twin-hive form *two* clusters, one in the centre of each compartment, while the bees of the "Wells" hive form only *one* cluster, for the perforated dummy is practically no division at all. Now, a very little calculation will show that the joint areas of the convex surfaces of the clusters in the twin-hive are to the area of the convex surface of the cluster in the "Wells" hive as three is to two. Now, note the result of a rise in temperature. Suppose, for instance, the twin-hive clusters on a warm day can spare a thousand bees each for foraging, it follows from the above ratio that the "Wells" hive cluster can send out three thousand bees on business bent. This advantageous plenitude of foragers fills up the "Wells" hive quicker than a twin-hive can be filled, and so on go the supers, &c. The strength of the "Wells" colony, too, is kept up throughout the season with less expenditure in bee-blankets than the twin-hive requires, except, perhaps, for a week or so, when both hives may be equal "ram and jam" full of bees.—E. B.

BEES IN THE TROPICS.

[1349.] We have just received the following letter from the Rev. W. Horsfall, which will no doubt interest many of our readers:—

On board the s.s. *Australind*,
proceeding to the Straits Settlements,
December 28th, 1892.

DEAR SIRS,—It is now over two years since I left England for the tropics (the Malay Peninsula). It has been my constant desire to introduce modern bee-keeping into that part of the world. Hitherto I have not been able to do much in this direction, and what I have done has proved a miserable failure. Last July I had cause to visit the southern part of the colony of Western Australia, and when there I purchased a hive of hybrid bees (half Ligurian), and brought them by steamer to a place on the N.W. coast of Australia, called Roebourne, where I was to reside until the end of the year, when I was to return to the Straits. Roebourne is a fearfully hot place. I got there in the cool season, and the bees worked well, supplying me with a good quantity of nice super honey. The cool season, however, was soon over, and then we registered 90° to 110° Fahr. in the shade, so you may judge how intense the heat must have been. The bees worked well in the mornings from four to seven, and in the evening from four to half-past six. They used, moreover, to collect quantites of water from every available water tank. The spout of my tank used to be quite covered with bees, drinking up the leaking water (I should mention here that in N.W. Australia there is very little water, and the atmosphere is fearfully dry). My bees never swarmed, though they crowded the hive both inside and outside, in spite of supers being on the top of it. I noticed the presence of drones last July and up to the other day, when my bees came to an unfortunate end, which I shall now relate to you.

In originally purchasing them, it was with the intent of taking them on to Singapore, where the climate is better in many ways than in N.W. Australia, being cooler. As I had been so far successful with them, I was full of

hopes that I should get them safely on board the steamer, and get them landed safe at the other end. I fastened them up, covering the frames with a sheet of zinc (perforated), and I also put a small piece of perforated zinc over the entrance. We brought them on board last Wednesday (December 21st), and they seemed to be getting on all right until yesterday (the 27th). When I went to see them, I noticed a strong smell proceeding from the frames, and more—the entrance, I noticed, was choked with dead bees, while the honey was dropping from the hive bottom on to the deck. I opened the hive, when the surviving bees, all soiled and bedraggled, rushed out. There was a fearful stench proceeding from them. I did not see a queen. The frames were full of pollen, honey, and brood, and I saw one empty queen-cell. The bees crawled all over the deck, many turning over and dying; some took to wing, while the deck was completely spotted over for yards with yellow, disagreeable-smelling excrement.

There were heaps of bees laid dead, and the combs (previously to our journey clean) were now all soiled and smelling. From the appearance of the bees, I concluded that it was next to impossible to save them, so I cut out all the good honey-comb and threw the brood comb into the sea, while the bees, living and dead, were swept overboard. At the time I examined them I was dreadfully flurried and upset, and I now think that I might perchance have done something by keeping the good brood comb with a few bees, and putting the lot into a small, clean box. I am grieved beyond expression, not merely at my own loss, but at what seems cruelty to these good little insects. I think they must have been overcrowded. I found all the combs smashed, and many bees crushed between them, and, in fact, in spite of regrets, I do not really think I could have preserved the survivors. Thus a long-formed plan has failed, and I am now prepared to try once more; but before doing this, I should like to learn from you if European or Syrian bees are likely to succeed in an equatorial climate, like that of the Straits Settlements. As you know, there are three kinds of bees in those parts, the *Apis Dorsata*, a very tiny bee like a Ligurian, and a tiny black bee. What I should fear with our European bees in a tropical land, is that they would gradually dwindle and dwarf. I should be pleased if I proved mistaken on this point. Are you aware of any previous attempt to introduce our European bees into the tropics? The next thing is, how would they travel from England, and at what time of the year should I order them to be sent? I am told that there are Chinamen who have introduced bees into the Straits from China; I have never seen them, nor have I been able to learn whether the venture has proved successful.

If you should recommend my proposed plan, what bees would you advise me to import, and would you advise me to get stocks, swarms, or nuclei? I have got a sort of idea that the vine-growing countries are the limits to the success of bee-keeping; that European bees will exist in temperate and subtropical climates, but will dwindle and die in the continuous enervating heat of the tropics. Whatever information you may care to impart, will be gladly welcome to me. If you write I shall be much pleased, but if you answer me as a correspondent of your *Journal*, I shall be equally delighted.

Should I find my plan not likely to succeed, I shall try Syria, or some other country nearer home for my operations. From childhood I have taken a deep interest in bees, and I was just getting successful at keeping them two years ago, when I left England for the tropics.—Yours faithfully, (Rev.) WILLIAM HORSFALL.

[To send bees to the tropics very great care is required in packing. There is no doubt the bees were smothered owing to the heat and the large number of bees in the hive. The bees should have had a large space under the combs, and would have been better able to cluster if an empty hive had been placed below. To send bees to the tropics is very risky unless accompanied by some one who could look after them, and place them in the cool chamber during the hottest part of the journey. We should advise our correspondent to utilise the bees of the country before he introduces European bees there. Italian bees have been introduced into Australia and India, but at Borneo and Timor the native bees are cultivated. We are writing to you more in detail.—EDS.]

BEE-KEEPING IN PALESTINE.

[1350.] I am glad to be able to send you some news about bee-keeping in Palestine as I promised to do on my arrival here. When I arrived here on December 5th last, I found my brother fully occupied with the bees, which were still scattered about all over the country, and not collected together; some were in the mountains, and others in the plains in different apiaries. They had had very bad weather for nearly a month, and part of our apiary was nearly washed down into the sea. The hives were placed near a river, when suddenly, owing to the heavy storms, the river swelled and rose. Fortunately for us, a Bedouin tribe lived very near, and, intent on robbing, they carried the hives off a little distance, in the hope of gathering some honey. They got this, but at the same time we were very thankful to them for rescuing, at any rate, a part of our apiary from destruction. Since that time we have had all the hives brought here on camels' backs (these camels carry eight double hives). There are quantities of almond-trees in blossom now, and, with stimulative feeding, we hope to have them built up in time for the orange-blossom crop, which begins in the month of March. I shall let you know how we succeed in due time. We keep our bees all the winter in the gardens, for they do not mind the cold, as ours is a very mild climate. Yesterday and to-day have been

quite hot summer days. I shall have a collection of Palestine bees and wasps this spring, which I shall try and send to you, unless we have the pleasure of seeing you here. Have you been to Nice or Algeria this season, or seen my brothers? I shall send you more news shortly. —EMILE BALDENSPERGER, *Jaffa, February 2nd*, 1893.

WEATHER REPORT.

BAGNALSTOWN, IRELAND.

January, 1893.

Rainfall	3·01 in.
Greatest fall in 24 hours, 8th	·72 „
Number of days on which rain fell	20
Maximum temperature, 25th	51°
Mean max.	41·8°
Minimum temperature, 4th	19°
Mean min.	34·7°
Max. ground, 24th	39°
Min. ground, 3rd	7°
Frosty nights	23
Prevailing winds	S.E. & S.W.

JOHN HENDERSON.

Echoes from the Hives.

Denton, Grantham, February 8th.—Bees in these parts were kept in a month by hard wintry weather. The glass registered the keenest frost on January 5th, viz., 30°. When the change came the bees turned out merrily for a cleansing flight. All my eleven frame hives answered to the roll-call; the number of dead on floor-boards was very few—indeed, a peep under quilts showed a considerable amount of stores consumed, though all have still some sealed left, which sets one's mind at rest for another fortnight. Then the soft candy was made and every hive got a cake nice and warm without any disturbance. An old newspaper is splendid to put over the candy, and then plenty of quilts over all, weighted with two bricks. I want to try the let-alone system with about eight hives this season (D.V.); you shall know how it answers. Lovely day to-day, without frost, 45° in shade. A clump of winter aconite near my hives is fairly taken by storm, and a little pea-flour put in some of the blooms was soon packed in the bees' pollen baskets and carried off. Snowdrops, crocuses, &c., will soon be in bloom if we have not to have another cold snap, but as my hives are all double walled that will not affect them greatly.—J. W. BLANKLEY.

Northampton, February 19th. — To-day, a shade temperature of 59° Fahr. brought the bees out in full force for their second flight of this season. Their first flight took place on the 24th ult. Between-whiles there have been partial turnouts, but, on the whole, the weather has been too wet and cold for outdoor exercise. On both the chief occasions bees came out strong and healthy, and showing but little sign of distress at their long incarceration. To-day, for the first time, pollen is being carried in, aconites and crocuses being its principal source. Snowdrops are scarce here. One stock has been twice detected casting out snow-white grubs, a circumstance difficult of explanation, as there is no shortness of stores and no chance of chill.—E. B.

Queries and Replies.

[722.] *Taking Charge of Foul-broody Bees.* —I have sent a piece of comb for your inspection under the following circumstances: A lady asked me lately to take the management of her five stocks of bees, and I arranged to do so. One stock has just died, and the comb is in a bad condition, and is, I fear, diseased. I write to ask, Is there any danger of my taking the disease to my own bees? If so, what is the best thing to do to avoid it, and what should I do with the combs and frames of the infected stock? I have twenty-eight hives of bees of my own, all in good health and strong, and I don't want the infection to reach them; besides, I have never heard of foul brood in this district before. As a precaution, I have closed up the dead stock until I hear from you, as there is about fifteen pounds of honey in the hive.—G. H., *Berks, February 14th.*

REPLY.—The comb sent is badly infected with foul brood—so bad, indeed, that the combs and frames of the hive from which it was taken should be promptly burnt, and the hive safely put out of harm's way. Should there be any other colonies with combs in the same state among the bees taken charge of by our correspondent, he should at once cease to do any handling of them under any circumstances, for, with his apparent inexperience of the disease and the measures necessary to prevent it spreading, it would be little short of a miracle if his own twenty-eight healthy stocks escaped infection. It would be impossible for us to give instructions such as could be relied on, under the circumstances, for safeguarding his own bees while dealing with a foul-broody apiary. Only a properly qualified expert should undertake such a task.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

JOHN GIBBINS (Edgbaston).—*Lantern Slides.*—The slides arranged by the B.B.K.A. may be hired for lecture purposes on application to the Secretary. They may be purchased from Messrs. Newton, opticians, Fleet Street, London.

E. B. HAMPTON (Ewell).—We have no leaflet on stimulative feeding for sale at this office.

MOUCHE-À-MIEL.—Honey into which fine caster, or "icing," sugar is worked in sufficient quantity to make a very stiff paste forms what is known as "Goode's candy," and is used frequently in America for feeding bees.

H. C. JACQUES.—Our correspondent must pardon us for reminding him how entirely unsuitable to the pages of a bee journal is anything savouring of theology or theological discussion. Besides, we know well that no offence to any one was intended in the remark referred to; indeed, to our mind, it is stretching a point to even infer so much, and we therefore trust that the matter may be allowed to drop.

J. B. H. (Keynsham).—If you made a "Wells hive" to hold twenty standard frames it would answer, as you say, to transfer the bees and combs of two of your strongest skeps into it. But you should carefully read up all that has appeared on the subject before attempting to work colonies on that plan. The book sent will inform you of the time to do it.

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EDITED BY A. I. ROOT,

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British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly Committee meeting was held at 105 Jermyn Street, on Wednesday, February 22nd. The Chairman, Mr. T. W. Cowan, presided, and the other members present included the Hon. and Rev. Henry Bligh, Rev. G. W. Bancks, Dr. Rayner, Messrs. W. B. Carr, W. O'B. Glennie, J. Garratt, W. H. Harris, H. Jonas, and J. M. Hooker (*ex-officio*). Letters apologising for non-attendance were received from Dr. Bartrum, Major Fair, and Mr. McClure.

The minutes of previous meeting having been read and passed, the Chairman reported that, in accordance with a resolution passed at the last meeting, arrangements had been made by means of which the Secretary would receive temporary assistance in his work through a member of the Committee having kindly offered to help him in the capacity of Hon. Sec. during such time as Mr. Huckle was incapacitated by his regrettable illness. These arrangements were confirmed, and Mr. Jesse Garratt (the gentleman referred to) thanked for his offer.

The statement of accounts was read and passed, along with a proposal of the Chairman of the Finance Committee (Mr. Jonas) that a special appeal be made, showing the deficit in assets and increase in debit, with the view of increasing the annual income of the Association thereby, that its work may not be impeded for lack of funds, and that this appeal be embodied in the report now being prepared.

The recommendation of the Exhibition Sub-Committee with reference to the gentlemen selected to act as judges at the Royal Agricultural Society's Show at Chester in June next, was agreed to on the motion of Mr. Glennie, seconded by Mr. Jonas.

The Chicago Exhibition Sub-Committee reported what had been done since the last meeting with regard to the "British exhibit." It was explained that the labour and cost of preparing the exhibit had involved more expense than was anticipated, and the hope was expressed that additional donations to the "special fund" would be forthcoming to cover the extra cost.

The regulations under which the new set of lantern slides belonging to the Association were lent out were, on the motion of Mr. Jonas, seconded by Mr. Hooker, amended by making the fee for hiring the same 2*s.* 6*d.* to members and 5*s.* to non-members. The remaining business being of a routine character, was not of public interest, and the meeting terminated in the usual way.

IMPORTANT PAPER ON FOUL BROOD.

READ AT THE ANNUAL MEETING OF THE ONTARIO AGRICULTURAL AND EXPERIMENTAL UNION, GUELPH, ONT., CANADA.

By J. J. MACKENZIE, B.A., *Bacteriologist of the Prov. Board of Health, Ont.*

GENTLEMEN,—At the request of your Secretary, Mr. Holtermann, I undertook for your Union some investigations on the subject of foul brood, the results of which I purpose giving you in this paper. Although it is almost a year now since I undertook this work under the auspices of the Agricultural and Experimental Union, it is by no means exhausted, and there are many points which require to be further elucidated, which I have not had time as yet to touch on, owing to the fact that the investigations on foul brood had to be carried on simultaneously with my regular laboratory work. These points I hope to work at next summer, and reserve the privilege of reporting again to your Union on the results of further investigation.

The subject of foul brood is an old one to apiarists, and an intensely interesting one to Canadian bee-keepers; but in reading over the bee journals one cannot help being struck with the great want of unanimity amongst bee-men as to the disease, how it should be treated, how it is spread, and on many other points. Some

would have us believe that the disease arises *de novo* whenever unsanitary conditions prevail; others claim that there is a specific infection, and where the disease arises it must have originated from previously existing disease; some claim that the honey is the only method of transmittal, others that it is not, and so on. On every point there seem to be plenty of arguments *pro* and *con*.

I have attempted in my work to take hold of some of these controverted points from a bacteriological standpoint, in order to aid in coming to some definite conclusion. Some of these points I should consider settled from the results of previous investigation, but as many bee-men do not seem prepared to accept this, my work will have value as confirming what had already been done.

Before an association which includes many practical bee-keepers, it would be superfluous to enter upon a minute account of the clinical features of the disease. Most of you know them better than I do. I certainly would not be prepared to "spot" foul brood in an apiary, although I certainly think I can under the microscope. The infectious character of the disease has been generally accepted for many years; but not until Cheshire and Watson Cheyne worked it out scientifically, was it definitely proved. They isolated the bacillus (*Bacillus alvei*) which they found in the diseased brood, and which they cultivated on nutrient media for many generations, finally reinfecting perfectly healthy brood from these pure cultures. This evidence to a bacteriologist is absolutely conclusive that *Bacillus alvei* is the specific cause of foul brood. Consequently, when I began my investigations on some samples of diseased brood which were sent me through Mr. Holtermann, I looked at once for *Bacillus alvei*: microscopically and by means of bacteriological methods I had no difficulty in isolating a bacillus which corresponds in all points to *Bacillus alvei*. It is a bacillus similar to that of Cheshire's in size, produces spores which are somewhat thicker, giving the bacillus a clubbed appearance. On agar jelly it grows rapidly, so as to cover the whole surface. In gelatine its growth is very peculiar, shooting out from the infected point in all directions. On potato it produces a yellow growth. All these characteristics show conclusively that it is identical with *Bacillus alvei*. There seems no doubt, therefore, that the foul brood which we have in Ontario is the same disease and produced by the same bacillus as in other places.

Many prominent bee-keepers, both here and in the States, however, maintain that wherever unsanitary conditions are allowed to prevail, wherever chilled brood is allowed to putrefy, or decapitated drones are left to decay in the hive, foul brood may arise *de novo*. This is not a new theory, either in bee-keeping or in medicine, but unfortunately it is a theory which is not supported by the results of investigation. Diphtheria naturally will develop more readily if unsanitary conditions are present, but it certainly will not develop if the bacillus diphtheria is absent.

The same is true of other diseases, and consequently, when we come to consider such a decidedly infectious disease as foul brood, and learn the facts about it which such men as Cheshire have told us of, we naturally come to the same conclusion. If I were to maintain that a Carniolan queen might lay an egg which would develop into a humble-bee, bee-men would be inclined to think that not only my bee-knowledge, but also my scientific knowledge, was at fault; but yet in all the bee journals I find many prominent bee-keepers maintaining that an ordinary microbe which produces putrefaction may become metamorphosed into the specific cause of foul brood. It is easy enough, however, to combat such an opinion upon *a priori* grounds; not quite so easy, however, to offer convincing proof.

In order to do this, I thought it worth while to try some experiments. With this end in view, I obtained some comb containing chilled brood, and endeavoured to isolate *Bacillus alvei* from it, but without success.

There were plenty of other bacteria, but none which presented the well-marked morphological character peculiar to *Bacillus alvei*. Again, I had sent to the laboratory a piece of perfectly healthy comb. I killed the brood by chilling, then I infected some of the cells from a pure culture of *Bacillus alvei*. I allowed all the killed brood to putrefy in a moist chamber for two weeks; at end of that time I obtained *Bacillus alvei* again from the cells which had been artificially infected, but could find no traces of it in the other cells. I left this comb in a moist chamber for several months and again examined, but with the same results; in the cells in which *Bacillus alvei* had been placed it was still to be found, in the others it was not present.

It seems to me that an experiment such as the above conclusively shows that there is a distinct difference between foul brood and ordinary putrefaction.

(*To be continued.*)

HEREFORDSIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of the members of the Herefordshire Bee-keepers' Association was held at the Free Library, Hereford, on Tuesday, February 14th—the Rev. F. S. Stooke-Vaughan presiding. The balance-sheet, showing a deficit, was passed, the deficit being due to the heavy cost of the bee-van. The officers for the year were elected, Messrs. J. Hancorn and E. M. Matthews being added to the Committee. The reports of the Hon. Secretary (Mr. A. Watkins) and of the expert, giving details of the working of the bee-van tour, were read and passed.

A lecture had been given at Tupsley by the Hon. Secretary, illustrated by his series of photographic views. The van tour had been the most interesting event of the year, and it

formed a striking departure from the methods of imparting knowledge in bee-keeping previously adopted by this or any other Association. Early in the year the County Council apportioned a grant of 50*l.* for the purpose of imparting instruction in bee-keeping by means of a van tour. Before this could be done it became necessary to purchase a van. To do this a special fund had to be raised, which was fairly well responded to by members, over 21*l.* being subscribed. The expert, Mr. Meadham, willingly undertook this van tour, and took his son with him to assist. The tour commenced on June 20th, and terminated on August 5th. Twenty-eight full days' work were accomplished. The general results of the tour were most encouraging; the attendance, on the whole, was satisfactory, in many cases extremely so. The deficit of 23*l.* 9*s.* 3*d.* on the van-tour account was anticipated, and need hardly be regarded with anxiety; but in the ordinary work of the Association (leaving the van tour out of account) there was an additional deficit of 8*l.* 4*s.* 1*d.* Part of this is due to the expenditure on medals (the die costing 5*l.* 5*s.*), and part to a decrease in subscriptions. The grant from the County Council had led in one or two cases to a withdrawal of subscriptions on the ground that the Association is now receiving outside support. This is entirely wrong, as the grant was applied to a special purpose, and did not relieve the ordinary expenditure of the Association on its members by a single penny.

BRISTOL AND DISTRICT BEE-KEEPERS' ASSOCIATION.

The annual general meeting of the Bristol and District Bee-keepers' Association was held on February 16th at the "Crown and Dove," when Mr. J. B. Butler presided over a fair attendance.

The minutes of the previous meeting having been read,

Mr. James Brown, the Hon. Secretary, presented the annual report, which stated that the membership had increased during the year from 170 to 283. In detailing the further work in extending the operations of the Association, the report also referred to lectures given in connexion with Horticultural and Agricultural Societies, which had in every case attracted a deal of attention, and by this means the educational work of the Association in the cause of bee-keeping had been considerably helped forward. Mention was also made of a money grant in aid of technical instruction in bee-keeping having been allotted to the Association by the Bedminster and Clevedon District Committee of the County Council, to be expended in giving lectures on bee-keeping within their district.

The Chairman, in moving the adoption of the report, said he thought they might congratulate themselves on having had a fairly successful year. Their membership had increased, their operations had extended over a larger district, and they might regard the work of the Association as progressing favourably.

The report and also the financial statement of the year were adopted *nem. con.*, which showed that the total income for the year had been 59*l.* 14*s.* 9*d.*, and the total expenditure 52*l.* 13*s.* 3*d.*

The Expert (Mr. Martin) presented his report, which stated he had inspected 650 frame hives and 175 skeps. They were in a very satisfactory condition.

It was decided to instruct the Secretary to apply to the County Council Technical Committee for a grant of 50*l.* for lectures, &c., in bee-keeping.

Lady Smyth was appointed President, and the officers and Committee—with addition of Messrs. A. C. Polehampton, W. Cotterell, and Bryant—were re-elected. The question of the appointment of experts for the inspection of apiaries in the various districts was deferred for future consideration.

The annual dinner of the Association was afterwards held, when Mr. T. Dyke presided. Letters of apology for non-attendance were read from Colonel Sir E. S. Hill, M.P., Mr. R. Auld, Mr. J. Fenner, and others. A very pleasant evening concluded with the presentation by the Chairman of medals, &c., gained during the year, and a drawing competition, conducted on art-union principles, for a hive value 15*s.*, the winner being Mr. H. H. Hamilton.

EXAMINATION OF HONEY BY DIALYSIS.

(*Continued from page* 75.)

I. Dr. Haenle was the first to reply. He said, on a postcard dated October 21st, 1891, "There is an adulteration of twenty-three per cent. with glucose." ("Bravo!" I exclaimed.)

Fee for analysis, 2 marks.

II. Dr. Amthor, of Strasburg, was second, and he wrote on October 22nd, 1891, "Analysis of honey sent October 13th by M. J. H. Walther, 18 Karlstrasse, Heidelberg:

Deviation of a 10% solution	+16·92°
" " after inversion	+ 5·93°
" " after alcoholic fermentation	+13·39°
Invert sugar	68·13
Cane sugar	4·46
Carbo-hydrates in the form of dextrine	9·306
Ashes	0·180
Phosphoric acid	0·0345

"The cane sugar had to be calculated by the quantity of alcohol formed during fermentation, after deducting the alcohol equivalent to the inverted sugar.

"In consequence of the increase of the reducing power before and after inversion, cane sugar cannot be estimated in this particular case

because the acid acts upon the dextrine present, and would increase the quantity of sugar.

"The honey sent is thick, yellowish, and slightly turbid. This is one of those natural honeys, polarising to the right, containing dextrine. They have been recently and at different times analysed in detail (Amthor & Stern, *Zeitschrift angew. Chemie*, 1889, p. 575), or, at any rate, the honey analysed resembles them by its composition to such a degree that it is impossible to see any difference.

"(Signed) Dr. Charles Amthor.

"Fee for analysis, 15 marks."

III. Councillor Nessler was third. He wrote from Carlsruhe on the 24th October :—

"To M. J. H. Walther, Heidelberg.

"The ten per cent. solution of honey sent to us, under the action of heat, left scarcely any residue; it does not contain sulphuric acid, but a trace of chlorine and lime.

"The test with adraganth and gelatine gives negative results. The polarisation is :—

Before inversion .. +6°
After „ .. +5°, 7 (Ventzke)

"After dialysis, the solution still polarises strongly to the right.

"According to Dr. Haenle's analysis, this honey contains a considerable quantity of potato-starch sugar (glucose); for some time, however, this method has been contested, so that at present it is impossible to say with certainty that the honey is really adulterated, although, according to our researches, it appears to be so.

"For the Agricultural Chemical Laboratory,
"Dr. J. Nessler.

"*Carlsruhe, 24th October*, 1891.

"Fee for analysis, eight marks."

IV. Dr. Barth, of Rouffach, Alsace, was fourth. He wrote :—

"To M. J. H. Walther, 18 Karlstrasse, Hiedelberg.

"The honey for analysis contains :—

Water	17·31 per cent.
Ashes	0·233 „
Sugar	65·41 „
Dextrine, precipitated by alcohol....	0.
Polarisation to the right	75·29°
„ after inversion	34·7°
„ „ alcoholic fermentation	75·5°
Unfermentable matter	38·05°/₀

"This is doubtless a clarified pine honey.

"The fermentation of the sugar in the honey is impeded or entirely arrested by the formic acid, and also by substances found in conifers or by the terebine. According to experiments made up to the present time, conifer honeys react differently to flower honeys; in the presence of a strong deviation to the right and absence of dextrine, it is impossible to decide as to adulteration, because the deviation varies according to the nature of the substances collected by the bees.

"These conifer honeys are assuredly of less value than flower honeys, but it is not right to declare them as adulterated in the sense required by the law in respect to food.

"The Director of the Experimental Agricultural Station, (Signed) Dr. Barth.

"Fee for analysis, three marks."

I received nothing from M. Rupp, chemist of Carlsruhe. I do not know for what reason. I consequently saw with satisfaction that only Dr. Haenle's method was the good one. His opinion corresponds almost exactly with the adulteration I had made.

The opinion which approaches the nearest to his is that of Councillor Dr. Nessler. He points out that the product after dialysis polarises still to the right, and his conclusion is that it is much adulterated.

The opinion of Dr. Barth is wrong, as is also that of Dr. Amthor. These analyses can be as accurate as possible, but they cannot serve as a basis to decide the question. It is more important to be able to declare whether the honey is adulterated or whether it is not than to give its component parts as exactly as possible. None of these gentlemen were able to do so. When Dr. Barth asserts that this is doubtless a clarified conifer honey, it must be remembered that this kind of honey is dark brown in colour, where the product sent for analysis was pale yellow; it was, before the adulteration, a honey of the finest quality, and was recognisable as such, by the large quantity of invert sugar and its strong deviation to the left (−42°) and by its colour. Besides, conifer honey is easily recognised by its taste and odour. At the Carlsruhe Exhibition I was asked to taste a sample of honey, which I did in the presence of M. Schröder, assistant to Dr. Haenle. I at once said, "Here we have a honey deviating to the right," which was found to be the case on analysis. It was honey from the Black Forest from the region of Friberg.

(To be continued.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1351.] We have now reached the third month of the year, in which we pass the vernal equinox and spring commences. The lengthen-

ing days even now inspire our hopes and rouse us up to the fact that the busy bee time is close at hand. February has filled the dykes many times even here on comparatively high ground; how those who dwell in the valleys have fared we can only conjecture.

Results of the "Wells" System.—In a note to the *Record* for this month, I have advocated the adoption of the two-queen system in preference to the usual method of uniting weak stocks in the spring. It is generally conceded that coddling with weak stocks never pays, but this system just fills the bill. Say a bee-keeper has a few hives, perhaps two of them may be weak in the spring: the usual practice with a busy man is to depose one queen and unite the two colonies. This has in the past made one fair colony, and possibly it has been some days after the two colonies have been united before the remaining queen has started breeding again (except the weather has been very favourable), the brood nest having been disturbed more or less by the introduction of what little brood was found in the colony of the deposed queen, and the combined brood nest probably taxes to the utmost capacity the bees of both colonies to cover the now enlarged brood nest; but by adopting Mr. Wells' plan the two colonies can be semi-united, and thus help each other by mutual warmth, and I have no doubt that the two colonies will progress considerably faster than if united under one queen. I intend giving the plan suggested a trial here this spring if I find any weak colonies, and I have no doubt I shall among so many. Is that another point, "E. B."?

I feel a certain diffidence, not to say compunction, in joining in the feeding-up discussion previous to the honey-flows—be it the clover, the lime, or the heather harvest. How many pounds of syrup can the bees store in a hive that ought to be full of brood? Shall I estimate that they will take down eight pounds of syrup each on the average, and that I have 100 hives that I am running for honey—shall I never through the season feel any twinge of conscience *re* the placement and ultimate deposit of those some 500 pounds of sugar fed to my stocks before the honey season opens? And if I take my bees to the heather I have to feed another 500, making something towards half a ton of sugar fed into the hives, in addition to the usual spring stimulating feeding. If we could be sure that bees prefer sugar-syrup to honey, and would reserve the syrup for domestic purposes, and store only their gatherings from the flowers in the supers for the bee-keeper and their own future use, why, common sense would say feed right away; *but is it just* to ourselves, to our craft, to our customers, to our consumers? I don't wait for an answer; it comes in a chorus of noes. Shall I say, somewhat in the words of the bard of Avon, "Cast it to the dogs, I'll none of it?"

To-day's post has brought the catalogue of Mr. J. H. Howard, which contains drawings of his new combined self-hiver and super-clearer, to which I referred a week or two back. The method of hiving swarms is by placing an extra body-box under the usual body-box containing the brood frames. Very full particulars are given by friend Howard of the method of working the new arrangement, and I advise those who wish for further information on the subject to send for a copy of his catalogue.

Sow shortly such seed of hardy bee-flowers as are required during the coming summer; also, some seed of wallflowers for another spring, and don't forget to give your poorer neighbours some seeds or plants. This will generate kindly feelings all round, and extend your forage-ground of bee-pasture.—W. Woodley, *World's End, Newbury.*

SYRUP! ET CETERA.

[1352.] Now, when I wrote that letter (1303, p. 28) about making syrup, I didn't think that Mr. Walton's plan of some years ago would be hurled in my face as being the same as mine. I have to make a hundredweight or so of syrup at a time, and I don't *boil* anything! Why, that's just my point; see the time and trouble that's saved. You might just as well boil the syrup as boil the water; one won't take longer than the other. No, just put the sugar and water on the fire, and, when dissolved, it is finished—long before it boils. Of course, the grandest part of the affair is that syrup made thus doesn't granulate a bit.

Mr. Taylor (1333, p. 57) wants to know how to medicate such syrup. That's according to what drug you use. You must make the syrup—or, rather, a portion of it—hot for Naphthol Beta. Formic acid will mix cold, and phenol solution will mix all right if it is first mixed with a portion of the syrup in the usual way. It isn't the fact of boiling the syrup that causes it to hold in solution some of these drugs, it's the temperature at the time of mixing.

By-the-by, a paragraph in this week's *B.B.J.* puts me in mind of a slight, controversy which took place some time since in an American bee journal, between a well-known professor and the Editor of the same, about beet and cane sugar for feeding, but I never noticed anything very satisfactory came of it. I *know* beet sugar is no good for bees (don't take any notice of the dogmatism), but the Professor couldn't see why it should be so, and gave as a kind of "clincher" to his argument the formula of beet sugar and cane sugar $C_{12}H_{22}O_{11}$, both the same. So it was settled at that. As the bees had the same chemical formula fed to them, why they ought to be satisfied and "quit" having dysentery—but they won't. Well, the argument is bold, as bees don't know anything about $C_1H_2O_3$, and all that sort of business, and I guess it won't keep a colony alive that's short. Now, just fancy the absurdity of the wife trying to make a shirt out of starch, or endeavouring to stiffen one's collar with cotton wool. She might even go so far as to mix up the cuttings from a linen sheet in order to make a blanc-mange, but it

would be far from either a nourishing or toothsome delicacy. Yet all these substances have the same chemical formula, viz., $C_6H_{10}O_5$, and so, for that reason, are called isomeric substances. They have the same elements in the same proportion; but, as I have shown, with very different properties. We bee-keepers know that beet and cane sugars have the same elements in the same proportions, but have, in bee-feeding, very different properties. Let us go in for practical and not theoretical work. Just feed the bees that which answers the purpose best. You'll not find it beet sugar.

It is not often we find any allusion made to the imperative necessity of arranging the stores (frames) in the hive so as to suit the requirements of the bees during the winter. Some one comes along and gives the information with a rather elongated visage, "Two stocks dead, and any amount of stores in the hive." Well, it is just an unhappy knack some bee-keepers have of just "chucking" the frames into the hive anyhow at autumn, instead of arranging them properly. (Perhaps the bees' temper at that season has something to do with it.) They perhaps put an empty comb in the middle of the hive. That is very nice in theory. I have heard the theoretical nonsense about giving the bees plenty of foothold; we shall provide them with ladders and chairs next, to climb up the combs and sit down upon! But does it not strike you that you are just dividing the hive into two parts? Bees don't "hanker" after empty combs to winter upon, and I don't blame them. They want the commissariat department somewhere near, just as we should. See that there are stores, a fair quantity, in every comb in the hive when you put them away for winter, and don't stick empty combs or sheets of partially drawn-out foundation just in the middle, for if you do you will pull the long face and say, "Dead, and any amount of stores in the hive." If you do want *very* particularly to put empties in the hive, just "dump" them in at the back or front; it don't matter which, as they will do just as much harm in one position as the other.

February 19th.—What a glorious day! Bees flying as in summer, pollen being fairly "piled" into the hive. Well, I just provided myself with a pencil and watched the entrance to each hive. Whenever I saw pollen being taken in I put a big **P** and the date on the front of the hive. I didn't get through the lot that day, but I dare say we shall have another such before very long, and then I will finish them. Perhaps you don't see the good of doing this. Well, I do. Just make a guess as to how many queens are "balled" in early spring by unnecessary disturbance by many bee-keepers. They do *so* much want to know whether breeding is going on, or, rather, whether the hive is queenless or not. Well, the foregoing plan will tell you at a glance without opening a single hive. You can just run your eye along the front of the hives and "spot" any one without a **P**, and later on, when there is less danger by meddling with them, you may have a look inside, as then it won't matter a deal. Of course it won't tell you whether the queen is fertilised or not, but that can be settled at a later period.

Pollen Feeding in the Hive.—I had a try at this, but gave it up. I put the flour in an empty comb in the hive, and the flour disappeared, but I never found it packed away in the comb. I saw plenty fanned out at the entrance. (I'll have another try.) I then mixed the flour with honey so as to make a stiff semi-dry paste, just as the bees form it. A lump of this I fixed in a cavity in the stage of a bottle feeder, and fed syrup at the same time; but they wouldn't touch it, although the under-part of the feeder, where the cavity was, was crammed with bees and they all had to walk over it. In theory (which I don't like) it doesn't seem exactly consistent with a bee's natural method of collecting pollen. They go into a flower or into a box of artificial pollen, get themselves gloriously dusted, and then *on the wing* mix it with nectar so as to make it into a rather dry paste, and then pack it away on their legs. Well, they can't do this in the hive anyhow. How can, or do, they carry it from the comb to the cell in which they ought to pack it? I haven't made exhaustive trials with it—only in the case of two hives some few years ago—and so may have better luck next time. These two colonies never packed away an atom, but simply fanned it out of the hive in the ordinary course of everyday ventilation. I like a box, as then the bees can collect it in a natural manner, and it saves disturbing them by putting fresh combs containing the flour into the hive just when the colony ought on no account to be interfered with. This latter is my chief objection, as even if I thought they would take it from a comb to use it for the larvæ—of which I am not at all certain—I should not feed artificial pollen in that manner. Why, I like to watch the little scamps rolling in the pollen, and then, with rapidly vibrating wings, poising themselves in the air while they moisten the dust and transfer it in minute balls to their hind-legs preparatory to taking it into the hive. It does you good when you have a lazy minute or two to spare and wish to spend them pleasantly.—W. B. Webster.

AVERAGES ON THE "WELLS" SYSTEM.

Is a Double-queened Stock to be Counted as Two Colonies?

[1353.] I see it stated in the *Journal* that Mr. Wells secured an average of 150 pounds per colony under his new system. Is this double colony counted as one or two colonies? If two colonies it means seventy-five pounds per colony, which is below the average yield of a single colony in a good clover district in a fairly good season, consequently I see no advantage in uniting two strong stocks under this system, as each stock, if worked separately, would give at least seventy-five pounds extracted honey. For hives

below the strength of, say, twelve frames of brood at the beginning of the honey-flow, it might be well to work under this system, as a super might be filled between the two, when neither would be able to do so alone if weak in numbers.

I think there must be considerable variation in the weight of honey gathered from different sources, such as clover, heather, &c. Mine is almost entirely a clover district, and from frequent trials made during the past ten years, I find that a quart of honey weighs exactly three and a half pounds, and I have found scarcely any difference between honey just gathered and that which has been ripened and sealed. I should like to see this compared with the weight of heather honey, and that gathered from other sources, such as bean and "lime" districts.

Some of my hives are three feet long, and when I have twelve frames of brood I put down queen-excluding divider, and fill out the hive with empty combs or foundation. A few days after the flow commences I put another hive or super on top of the frames, the same length as the hive, with a sheet of excluder zinc over the first six frames, and a thin quilt all the way back over the rest of the frames between the super and hive proper. I should say the super is same size as the hive proper, and takes standard frames. In this way I have not much trouble with swarms, and need not be in a hurry to extract, as there is plenty of room for surplus honey. The frames in these hives are parallel to entrance, and in the height of the season the bees enter at both ends of the hive from entrances extending to full width of the hives.

With regard to spring feeding, I used to think that, provided a hive had plenty of stores, it was better to leave it severely alone; but after experimenting, I have come to the conclusion that slow and regular feeding in early spring is essential in districts depending on the clover for surplus honey. The great difficulty has been to obtain a good feeder; that is, one which preserves heat by allowing the quilts to lie closely packed all over the tops of the frames, and feeds slowly, say, a tablespoonful every twenty-four hours.

This year I am using a feeder made as follows:—A piece of wood about one inch thick and six inches square, with a hole about two inches square cut in the middle. Place this on the thin quilt next the frames, and in the square hole place the tin cover of a quarter-pound mustard can, or anything similar; and over the hole a square of glass, kept in position by a thin slit of wood tacked on each side of the hole; a narrow slit in the quilt to allow two or three bees at a time to come through, and all is ready. To fill the feeder, slide the glass back just enough to pour the syrup into the tin cover. The feeder can also be used for soft or hard candy by taking out the tin cover, and filling the hole under the glass with the candy.

Heaps of trouble! some bee-keepers may say, but it amply repays when the honey-flow comes, and there are strong stocks to gather it. If any stocks increase too fast, there are always a few weak ones to be found, to which a frame or two of hatching brood is very acceptable.—J. O. C., *Cornwall, February 9th*, 1893.

[If our correspondent, by whatever system of management he adopts, last year obtained results approaching those reported by Mr. Wells, he will do well to continue working on his present lines. But it has been distinctly stated that stocks are not doubled in order to obtain the average of 158 pounds per colony. Reference to what has already appeared in our pages on this point will show why we agree with Mr. Wells in counting each double-queened stock as one colony—*not two*.—Eds.]

BEGINNERS AND THE "WELLS" SYSTEM.

[1354.] I do not know wherein the "Wells" system differs from an ordinary twin hive with a division of perforated zinc, nor do I know whether Mr. Wells recommends his new system to young bee-keepers as being more profitable; but I would advise young beginners to be careful how they "plunge," for a double hive is a formidable affair to manage—at least I found it so many years ago, and although I still keep mine as a curiosity, it has not been in use for six or seven years.

I found that although I did exactly what you strongly advise about keeping the quilt of each half well pressed down, so as not to disturb one half while manipulating the other, the bees of the other half would persist in attacking from the flight-hole (or entrance), and it was truly surprising what intelligence they displayed in this respect, for after a time it mattered not which side I desired to interview, they were ready for me on both sides. I have kept bees for forty years, and am no coward, but to this twin hive I had to raise my hat and pass on. Then, as regards swarming, there was always the double chance, which is a great drawback to any system. And if there happens to be a weakly foul-broody stock within a mile of the place, the chances are two to one they will find it. For these reasons I feel certain the double hive will be a disappointment and loss to most young beginners who try it.—Thomas F. Ward, *Highgate*.

MISHAPS WITH THE "WELLS" HIVE.

[1355.] I was in hopes that Mr. Woodley would have given us some more information in last week's *Journal* respecting the loss of his two colonies of bees, "*à la* Wells," mentioned on p. 44 (No. 1315). As I think there is something to be learned from such a *contretemps* in the hands of a master of the craft like Mr. Woodley, I should like to ask him a few questions upon it, and also ask him to give us any further information that he may have gleaned upon the subject, as I feel certain that he has not let the matter

drop without making further inquiries into the why and wherefore of his mishap.

How and when were these two colonies put into this double hive, and was he certain that each colony had a laying queen, that had bred in this hive, when he examined them in November? If so, did he find a dead queen in the deserted part of the hive, or had she gone through the division-board with her bees? And what did the stores consist of—was it honey that had been collected by the bees, or was it stores that had been given to them already sealed up? I cannot help thinking that the queen in the deserted part of the hive must have died, and then her bees joined in with the other lot. But, even then, I don't understand their dying of starvation, with plenty of food so near to them, as I don't recollect ever losing a lot of bees by starvation when there has been any food in the hive; and I have given up cutting winter passages now for several years past.

I don't say "Served him right," as oftentimes there is more learnt from a failure than through continued success.

What a glorious day we had for bees on Sunday, the 19th ult.! Mine did enjoy what few crocuses there was out in bloom, as many as four bees in one flower at once time. I have never known them so busy carrying pollen in February before.—MAN OF KENT.

AFFILIATED ASSOCIATIONS AND THE B.B.K.A.

[1356.] I intend to urge the following as a recommendation or resolution at the forthcoming Annual Meeting of the British Bee-keepers' Association:—That the affiliated Associations be required to contribute more liberally to the funds of the British Bee-keepers' Association. As the county Associations have the first claim on the bee-keepers of their county for support, there is a very limited field from which to recruit the subscription list of the B.B.K.A. The services rendered by the B.B.K.A. to all bee-keepers in the kingdom and to the bee-keeping interests of the world are considerable, and the claims of the Association on the county Associations ought to be more liberally acknowleged. The guinea fee is utterly inadequate.—E. D. TILL, *Eynsford*.

EXTRACTORS.

[1357.] *Apropos* of extractors, I served a two years' apprenticeship to a "Little Wonder," and last summer I began to think I wanted something—well, not so painfully simple, also I didn't want to pay much; so I got together my *Bee Journals*, and after a due consideration of the merits of those advertised, I got out a drawing of what I thought an extractor should be. It combined the leading features of—— but no, I believe some patents are involved; anyhow it was a very nice drawing, and the tinsmith round the corner, who makes the covers for my "Stewartons," said he would make one for 15*s.* 6*d.*, and I said "Done!" I *was* "done," for after six or eight visits round the corner to explain details of construction that the tinsmith couldn't follow, the machine was finally sent round, and with it a bill for 26*s.*, "treacle tap 2*s.* 6*d.* extra!"

Bees about here seem to have passed through the severe weather very well, and I hear of no losses. All my five stocks were flying strongly on Sunday the 5th, carrying my thoughts on to next June, with six weeks, or even a month, settled fine weather and the fields white with the little Dutch clover, a state of things I have longed for ever since I took to bees, but expect never to see realised.—MOUCHE-À-MIEL.

Echoes from the Hives.

Beemount, Stoke Prior, February 20th.—The weather here yesterday was glorious, thermometer registering fifty-five degrees in the shade, the maximum this year so far. Bees out in great numbers, some busily employed taking home pollen of a bright orange colour. The "hum" was indeed music to one's ear. Some friends who been watching the little revellers in the sunshine came hurriedly to me exclaiming, "The bees are swarming!" I was obliged to "smole a smile" when I heard this startling news. Am happy to state that the bees I help to manage, as well as my own, are all in a prosperous condition.—PERCY LEIGH.

Ballindalloch, N.B., February 22nd.—My bees (twelve colonies) have come through the winter all right. I had a look at my weakest colony and found brood on two frames and young bees hatched.—ALEX. STRATHDEE.

Coventry, February 19th.—Bees seem to have wintered well here. My nine stocks were flying splendidly to-day, and they were carrying in pollen from snowdrops.—H. ROBINSON.

Queries and Replies.

[723.] *Renewing Combs in Hive.*—I asked you some time ago how I should act when I wanted to replace old frames and combs in a hive with new ones, and you said that I had better take away one of the outside frames about once a week or so, beginning in April or May, and put in a frame of foundation in the centre—the brood nest—in its stead. This, I have no doubt, is the proper way for success, but I wish to know if there is not a shorter way of doing away with the old black combs—say, a complete change of hives done at once? I have two hives of which I want to change their combs, and I have two spare hives, all the standard size,

Honey I don't want this year, as I have plenty over from last year. I left the two old hives plenty of honey at the beginning of winter and the bees in them seem all right now.—J. S. D., *Gravesend.*

REPLY.—The combs might, of course, be renewed at one operation about the middle of May, by shaking the bees off the old combs and letting them run into the new hive fitted with full sheets of foundation. But it would be a rather cruel thing to sacrifice the brood in the old combs in order to do it in this way. Why not give the bees at least such of the old combs as had brood in them, and substitute frames of foundation for these latter after the brood had hatched out?

[724.] *Porto Rico Sugar for Feeding.*—1. Do you recommend this? I put about four or five pounds over the frames, laid on thin paper, in the autumn on any hive which may be short of stores. Advantages—(*a*) Keeps the bees warm; (*b*) at this time of the year it forms an easy guide as to the state of the bees. One hive is now taking it freely, and the bees look very healthy; another has not touched the sugar at present, having more honey in the frames. The only disadvantage is that there is some refuse in the sugar which the bees carry out. 2. In an ordinary hive (not a Wells') is it necessary to use queen-excluder over the frames in the body hive? I never but once found eggs in either sections or the frames above.—A. P. J., *Norfolk.*

REPLY.—1. Owing to the extreme difficulty of obtaining genuine Porto Rico sugar, and also by reason of the mishaps which have come to our knowledge through feeding as described, we do not recommend it. 2. If you have found little or no trouble from the non-use of queen-excluder between brood and surplus chambers, there is no reason why you should adopt it. Your experience is, however, contrary to that of most bee-keepers, who, even when dispensing with it in "sectioning," find excluders necessary when working for extracted honey.

[725.] 1. My bees were very busy carrying home pollen yesterday: may I conclude that the queen is breeding? 2. Is Essex a good county for bee-keeping? 3. When shall I begin to give artificial pollen? 4. Is the middle of March too early to commence syrup feeding? 5. Do you consider it a good plan to place camphor amongst the cork-dust between the walls of hive?—PERCY LEIGH, *Beemount, Stoke Prior, February 20th.*

REPLY.—1 and 2. Yes. 3. If natural pollen is plentiful the substitute is not needed at all. Otherwise, whenever bees are seeking for natural supplies, artificial pollen may be given with advantage. 4. The end of March is early enough. 5. We always use naphthaline between the walls of our hives, and keep a few pieces between the quilts as a preventive of disease and to keep away moths.

[726.] *Sections* versus *Shallow Frames.*—1. Which gives the best results, working bees in one-pound sections or in shallow frames for extracting? 2. Is it necessary to use queen-excluder zinc when working sections? 3. When working shallow frames, is it best to use only two shallow bodies for each hive, and extract the top when full, or add shallow bodies as long as the bees will fill them, and then extract at the end of the season? 4. If this plan is best, how am I to know when the bottom shallow body is full, as I presume the empty ones would be put on next the brood nest?—F. HOWELL, *Poole, Dorset.*

REPLY.—1. A greater weight of surplus will be got with shallow frames for extracting. 2. Not necessary, though some consider it advisable. With shallow frames, however, excluder is indispensable. 3. We use three shallow bodies in a good season, and, if more space is needed, remove some of the full frames, and return them after extracting. 4. The first surplus box given remains next the brood nest till the end of season, and is always well filled.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A CONSTANT READER (Devon).—*Keeping Bees in a Town Store-room.*—If there is bee-pasturage within a little distance of the place, the bees will do all right in a store-room as described. Fix up the hives on a stout platform close to the window, through the lower sash of which an aperture—six or seven inches long and three-eighths of an inch high—should be cut for a passage-way for the bees. A good-sized alighting-board should also be fixed outside the window, and, if possible, some little side protection should be provided, so that high winds would not prevent the bees from alighting easily. We recently saw a couple of stocks working in hives fixed at the upper window of a dwelling-house, and although the walls and tops of the hives were entirely of glass, the bees worked away quite regardless of the daylight or of observers.

J. W. (Patshill, Wolverhampton).—*Bee-stings.*—We have known several bee-keepers who, like yourself, suffered much inconvenience from bee-stings, yet have quite overcome the trouble by acquiring a quiet and patient method of handling bees. We never like to hear of gloves being used when manipulating, and as soon as possible these should be dispensed with. They hinder instead of being

helpful. Then, if your bees are specially pugnacious they should be got rid of, and a quieter strain introduced. Above all things, bear in mind to worry the bees as little as possible by unnecessary interference.

F. W. (Pitsea, Essex).—*Spring Food for Bees.*—We know nothing of the "chips" referred to, and strongly advise you to use nothing but pure cane-sugar syrup for spring food.

A. M. (Frizington).—Bees were smashed out of all shape in post. It is impossible to guess why the three stocks in skeps have died, unless it be from cold or paucity of numbers.

R. HAMLYN-HARRIS (Wragby).—1. Wax, if melted down into a solid cake, needs no taking care of; it will keep anywhere. 2. If the syrup is free from fermentation, a little hot water added will make it suitable for spring use. 3. We don't like patching up and transferring old combs from skeps to frame hives. Far better let the skep swarm and furnish the frame hive with straight new combs.

ALPHA (Birchfields).—*Bee-candy.*—Full instructions for candy-making are given in *B. J.* for November 26th, 1892 (p. 534), which will be sent you for 1½*d.* in stamps. The candy must be placed below the cushion of cork-dust.

G. SAWYER (Gt. Marlow).—"*Wells*" *Division Boards.*—If the holes are made just so large as to prevent the possibility of the passage of the worker-bee, very little propolisation will take place; but, if too small, the holes are much more likely to be propolised.

J. RING (Maidstone).—*Work for Beginners.*—If you can ascertain by slightly uncovering the frames that the bees have plenty of food left, no further steps are really required until the hive begins to get crowded with bees, when supers of some kind must be given. If food is short the bees must be fed at once. To be successful you should read some work on bees, such as the *Guide-book* or *Modern Bee-keeping.*

ALEX. STATHDEE (Ballindalloch).—*Asphalte Felt for Covering Frames.*—No. 1 would do for the purpose, but there is an asphalte, commonly known as "patent roofing felt," which is still better, as being free from fibre to annoy the bees. A material like No. 3 would not form by any means so warm a covering as ordinary quilting.

"SELDOM SEEN" (Newbrough).—*Races of Bees.*—1. Hybrid Carniolan (slight cross). 2, 5, and 6. Ordinary black bees. 3. Hybrid Ligurian. 4. Well-marked hybrid Carniolans.

E. J. PIDLER (Alton, Hants).—The Hon. Secretary of the Hants and Isle of Wight B.K.A. is Mr. J. J. Candey, 197 Commercial Road, Landport, who will, no doubt, furnish you with all the information you require.

*** *Several articles, queries, &c., are in type, and will appear next week.*

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MARSHALL'S Soft Candy for Winter and Spring Feeding.—Soft Bee-Candy and Flour-Candy, exactly the same as that sent out by the late Walter Marshall, supplied by his Widow at 4s. 6*d.* per dozen 1-lb. Cakes. Single Cakes, 5*d.* each. *Cash with order.* Address Mrs. W. MARSHALL, The Apiary, Sunny Hill, Hemel Hempstead. 3

BEES AND QUEENS.—Choice Ligurian, Carniolan, and English Stocks, Swarms, and Queens. Prices on application. Address C. T. OVERTON, Crawley, Sussex. 7

FOR SALE.

SIX HORSE POWER (Crossley "Otto") GAS ENGINE for Sale (more power required). Can be seen at work until March 4. Lowest price, £60. Address ABBOTT BROS., Southall.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—As predicted in the weather chart referred to in our last "Hints," February was "mild and wet"—*very* wet; in fact, the rainfall must have been several inches above the average, for we can recall very few days in the whole month when rain did not fall at some time or other during the twenty-four hours. Fortunately, however, the tremendous downpour chiefly took place during the night-time, and as several days have been bright and sunny, with a generally high temperature, bees have been busy gathering natural pollen very freely, in our own neighbourhood, from the catkins of the willow. The favourable reports we continue to receive point also to the fact that bees have wintered unusually well, there being very few cases recorded of stocks perishing outright. Nor has the general loss of bee-life in still-surviving stocks been anything like so heavy as usual, if the accounts in our correspondence of "very few dead bees found on floor-board" are a safe criterion as to the all-round condition of stocks in the possession of readers.

SPRING STIMULATION.—It is certain that breeding is now making good progress in healthy colonies, and, if precautions are taken to avoid the mischief which sometimes occurs through a recurrence of cold weather in April, there is no reason why in early districts queens and bees should not now be encouraged to extend the brood nest by candy-feeding for the next two or three weeks, followed, at the expiration of that time, by thin syrup given regularly until natural food can be had. Should the weather continue mild, all will be well; but if frost returns, or if cold easterly winds supervene, feeding should not, as some may think, be suspended; it then becomes more than ever necessary. Giving food means furnishing bees with the power of producing heat; consequently "chilled brood" will be more safely guarded against by keeping up slow feeding, combined, of course, with care in adding to the warmth of the hive, than in any other way. We are not unmindful of the fact that early stimulation has to some extent been deprecated in this column, nor have we altered our opinion that stocks amply provided with food at this season are best left alone *if doing well*; but if bees of such stocks are seen to be less active in pollen-carrying than others which are being stimulated, then—and then only—should the former be roused to more rapid breeding by uncapping or bruising the surface of the sealed combs to expose the food within. This operation will as effectually stimulate the bees as feeding, and need cause very little disturbance.

CANDY MAKING.—Recipes for this are so much in request just now that we give below the method followed by Mr. William Woodley, as detailed by him in this month's *Record*, wherein he writes:—

"Candy-making, notwithstanding the repeated recipes that have been given in the *Record* and its weekly contemporary the *Bee Journal*, has not proved a satisfactory job in the hands of many bee-keepers; therefore I shall not consider space wasted if I give our experience. When I say 'our,' that includes the 'gude wife,' who generally superintends the cooking part of the business. We proceed as follows:—Into a large copper-bottomed saucepan we put three imperial pints of boiling water, then add gradually seventeen pounds of pure Demerara crystallised sugar, into which one and a half teaspoonfuls of cream of tartar has been mixed; stir well till all the sugar is dissolved, then allow it to boil ten to fifteen minutes. Now stand the saucepan of syrup in a vessel of cold water, and stir briskly until it gets of a thick, creamy consistency. A little salt may be added, if desired, just before it is

removed from the fire; and Naphthol Beta, dissolved in spirits of wine, may be added in proper proportions when the stirring begins after the syrup is taken off the fire. These proportions will prove right *every time*, and the candy will be neither too hard nor too soft."

The chief difficulty experienced in candy-making by amateurs is that, when cold, it becomes too hard for the bees to take it easily, and so, to the above clear and simple directions, we would add that—if readers find any trouble in this way—a little granulated honey, well kneaded or worked into the mass as it is cooling down, will render the candy soft and "buttery," besides making it very attractive to the bees.

THE DOUBLE-QUEEN SYSTEM.—Referring to the great amount of interest taken in this system, we do not quite regret to observe that some correspondents have written what may be termed "steadiers" on the subject, nor can there be any objection to the advice given by "C. M. R." in our monthly, the *Record*, to "hasten gently" with regard to it. We have all through urged a trial with a very limited number of hives on the double-queen plan, knowing that experience will be required before deciding whether to go in for it largely or not. There is, however, no reason that we can see why "disappointment and loss" should result, even to beginners, as prognosticated by our correspondent, Mr. Ward (1354, p. 87). In his case, the viciousness of the bees dealt with appears to be the main cause of failure; anyway, no trouble of the kind happened to Mr. Wells, who—after two years' trial—is more hopeful regarding his plan than ever.

Another point we find it necessary to refer to is the need for readers clearly understanding what is meant by advising the joining of a couple of weak stocks together in order to form a double-queen colony on the "Wells" plan. From letters which have reached us, it is apparent that the term "weak stock" is not quite a safe one to use, because of the readiness with which inexperienced bee-keepers apply it in a general sense without reference to the cause of weakness. It is surprising to find how many are strangely apt to overlook this fact, and yet it would be obviously worse than useless to hope for any success from the joining together of two stocks rendered "weak" by having aged and worn-out queens at their head, or worse still, owing their weakness to disease. Consequently it will be best to drop the term "weak stock" and substitute "second swarm" or "cast." These latter are usually weak in spring, but being headed by young queens, they pull up so rapidly as to frequently push ahead of much stronger stocks by the time the honey-flow begins. These are, therefore, the so-called "weak stocks" so admirably adapted for uniting in pairs when first making trial of the double-queen plan, and we ask that correspondents who have sent queries on the subject of uniting "weak stocks," will take the above remarks as a reply.

BERKS BEE-KEEPERS' ASSOCIATION.

The annual meeting of this flourishing Association was held on Monday, the 27th ult., at Reading, and, considering the state of the weather, there a very fair attendance. Whilst light refreshments were partaken of, the members found an opportunity of talking over the prospects of the coming season, nearly every one expressing the opinion that bees had come through the winter better than for some years past.

Proceeding to business, Mr. W. S. Darley was voted to the chair. The minutes of the last annual meeting having been read and passed, a vote of thanks was accorded to the retiring officers, who, with few exceptions, were re-elected. Much regret was expressed at the retirement of the Hon. Sec., Miss R. E. Carr Smith, who two years ago stepped into the breach when the affairs of the Association were anything but flourishing, and almost entirely by her own efforts put it on its legs again. She has the satisfaction of seeing as the result of her labours that the Berks B.K.A. is doing excellent work in the promotion of profitable bee-keeping in the county. Miss Carr Smith, in response to a special vote of thanks, stated that the work had been to her a labour of love, and in resigning the post of Hon. Sec. she did not intend to cease working for the Association, but that circumstances compelled her to take a less official position, in which she would do her best as in the past.

Mr. A. D. Woodley was elected Hon. Sec., and in accepting that post explained that he did so only in order to retain the assistance of Miss Carr Smith, who had consented to help him in the work.

Mr. John Simonds (the Bank, Reading) was elected Hon. Treasurer; Mr. Frank Cooksey, Hon. Librarian; Experts, Messrs. A. D. Woodley, F. W. Flood, and H. Atlee. Representatives to the British Bee-keepers' Association, Mr. A. L. Cooper, Hillcroft, Reading, and Mr. W. Carter, New Road, Clewer.

The routine business having been disposed of, one of the experts explained the "Wells" hive,

one of which he had on view. The hive was afterwards submitted to a critical examination, the general opinion being that at present it would be better to proceed slowly with the new idea, and that in the hands of a novice it may be a failure.

The meeting terminated with hearty good wishes for a successful season.

We are requested to inform the members of this Association that in future all communications should be addressed to the Hon. Secretary Berks B.K.A., 17 Market Place, Reading.

GLAMORGANSHIRE BEE-KEEPERS' ASSOCIATION.

The annual general meeting of this Association was held at the Queen's Hotel, Cardiff, February 16th, 1893—Mr. Charles F. Gooch in the chair. The attendance was not large. The accounts and report of the Committee were presented and passed. The President and Vice-Presidents were re-elected. Mr. Thornton was appointed to act as Secretary and Treasurer. The Acting Committee were elected, representing the chief centres of the County. Mr. Gooch was re-elected Chairman of this Committee. Mr. Pritchard Morgan, M.P., and Mr. N. L. Carr were re-elected representatives to the British Bee-keepers' Association.

A discussion was then initiated by the Hon. Secretary as to the desirability of dividing the county into districts, with local committees and secretaries. By this means it was hoped a greater interest would be taken in the Association and new life and vigour infused amongst its gradually diminishing numbers. This plan was approved by all present, and the Secretary was requested to make inquiries as to the rules and management, &c., of these District Associations and report.

Mr. Thornton will be very grateful for any information on the subject from Hon. Secretaries or others where this is carried out.

The expert then read his report. He stated that he had examined 165 frame hives and fifteen skeps, and did not detect one case of foul brood. This is very encouraging, for, as far as the Association knows, the county is free from this pest. In some parts of the county a fair amount of honey had been taken, while in other parts the bees had to be fed to keep them alive.

A hearty vote of thanks to the late Secretary and to the Chairman was cordially endorsed by all present.—E. THORNTON, *Secretary and Treasurer Glam. B.K.A.*

BISHOP'S STORTFORD BEE-KEEPERS' ASSOCIATION.

The above Association held its third annual meeting at the Corn Exchange on Tuesday evening, February 21st—the Rev. W. J. Frere presiding. The report and balance-sheet were read and passed. The prizes offered for competition at the next Horticultural Show were then considered, and in addition to those given by the Association and Mr. and Mrs. L. D. Wigan, a special series of six prizes were arranged for cottagers and labourers joining the Association during 1893. The officers were then re-elected as follows:—President, the Rev. W. J. Frere; Secretary and Treasurer, Mr. G. W. Sworder; Committee, Mrs. Pritchett, Miss Scott, Mr. W. J. Cooper, Mr. F. Fowler, Mr. W. Bentley, and Mr. E. Rumble; Auditor, Mr. C. Gabb; Local Secretaries, the Rev. A. D. Piper, Rev. J. J. Baker, Mr. F. Fowler, and Mr. E. Wallis; Expert and Adviser, Mr. W. C. Child. A vote of thanks to the Chairman concluded the meeting.

EXAMINATION OF HONEY BY DIALYSIS.

(*Concluded from page* 84.)

When Dr. Barth says, "One must not conclude that there is adulteration because there is a strong deviation to the right, in the absence of a precipitate of dextrine obtained by alcohol," he affirms nothing. He might, at any rate, have added—except where these honeys, after prolonged dialysis, still turn the polarised ray to the right.

As a proof, take the analyses of Nos. 34, 35, and 36. That these conifer honeys are "of less value" than flower honeys can only be stated with reserve. In many instances they are preferable to honey from flowers. A difference must also be noted with regard to aphidian honeys. They are in this respect of inferior value, because they are the product of an unhealthy vegetation, whereas honeys from flowers and conifers are derived from a healthy vegetation. Unfortunately I am not yet in a position to judge of the way aphidian honey acts with respect to polarisation and dialysis, as up to the present I have not been able to procure any.

The opinion of Dr. Amthor satisfied me the least, and for the same reason as I have mentioned with regard to that of Dr. Barth, because Dr. Amthor says, "This is one of those natural honeys polarising to the right, containing dextrine," and because he concludes, "or it resembles them by its composition to such a degree that it is impossible to see any difference."

Here there is an evident contradiction, and a doubt in the surmise. One ought to say one of two things, that this is either a pure and natural honey, or not, as Dr. Haenle has done with such precision. But an opinion formulated like that of Dr. Amthor is of no value whatever.

It is well to say that no decisive step has been taken by the Government to establish a law with regard to the sale of honey. It is also true that "for four or five years a thick mist has hung over the chemistry of honey," only Dr. Haenle could add, that it is still there. (As a proof, see the opinions of Drs. Barth and Amthor.)

This mist must—and I say it with firm con-

viction—give place to clear light, if the theory of Dr. Haenle is admitted without jealousy, declared indisputable, and recognised as having a practical value.

Allow me to say a word about the prices of the analyses.

Dr. Barth and Dr. Haenle, without the slightest pretension, charge two to three marks (2*s.* to 3*s.*), whereas Dr. Nessler charges eight marks, and Dr. Amthor fifteen marks. This last fee is too high, more especially as the analysis is not a correct one. It is, therefore, not astonishing that the dealers, for example, hesitate to send purchased honey to the laboratory to have it analysed. I have before me the report of the Municipal Laboratory. According to this, from 1886 to 1891 only five samples of honey have been analysed, at the request of private individuals and not of the authorities. No remarks are made on any of the samples.

I would remark that the fee for analysis is fixed at five marks only, and that all the fees on analysis of foods are indicated in the *Heidelberg Directory;* however, only one sample has been sent to this laboratory during the last year, and this was not from any of the authorities. It is therefore time that the bee-keepers' societies take the matter up in the way it is done here, and that they start laboratories of their own.

The *Journal d'Apiculture d'Alsace-Lorraine* says, with respect to Heidelberg: "The sale of artificial honey has absolutely stopped at Heidelberg since the establishment of the laboratory in this town." We must not take this literally, but, as we advertise occasionally in the papers, the time when the above will be quite true is not far distant. The result will be, as I have pointed out previously, the complete disappearance of artificial or adulterated honey, and the consumers of pure honey will cause the price to rise, and bee-keeping will prosper.

My work was finished when by chance an extract from the *Austrian Pharmaceutical Journal*, No. 19, 1891, reached me. It was stated that Dr. Mansfeld of Vienna made known the results of his analysis of honey. For me this extract is most interesting. It is just the contrary to what I have established by my work. I frankly admit that I might have been discouraged, when I read the following words from such an authority as Dr. Mansfeld:—"Dialysis according to my trials is not necessary in verifying honey." And in a note Dr. Mansfeld bases his statements on the experiments of another authority Dr. Dietrich, who stated in the *Annals of Helfenberg* that all honey analysed after dialysis rotates to the right, just like those adulterated with glucose.

I cannot make a better reply than by referring to the table, and this would be sufficient to astonish these two honourable gentlemen. I have up to the present made between eighty and ninety dialyses, and not one of these honeys showed any power of rotation after dialysis. Amongst them were about a dozen honeys from the Black Forest which before dialysis turned to the right. On the other hand, all the samples which had been adulterated with glucose or fruit sugar persistently deviated four to nine degrees to the right, absolutely the same as is indicated above with respect to cane-sugar syrup, given as food to bees and sealed in the hives during several months.

Now I can advance the following supposition: either that the two samples of which these gentlemen speak were adulterated with glucose or cane-sugar syrup, or, which is the more probable, that dialysis was not complete. The dialyser which I employ is the one recommended by Dr. Haenle, and is arranged in such a way that the substance to be tested covers the surface of the membrane barely a centimetre in depth; the current of water passing across the instrument is sufficiently strong to effect complete diffusion. I have also, to verify the method, dialysed with a bladder, and I then, with a solution of water and honey from the Black Forest deviating to the right, gave the dialyser as much liquid as it would contain, the depth being four centimetres. I continued the strong current of water for twenty hours, but I found on polarising that after five hours the rotation was stationary, and that it was still $+14°$ at the end of the twenty hours. It therefore depends upon the manner in which the dialysis is made. I then gradually adulterated this honey 10 per cent. at a time with syrup and I had with a 30 per cent. of adulteration, $+130°$ before dialysis, $+24°$ after twenty hours of dialysis with a bladder, $+18°$ with my dialyser, and the solution three centimetres in depth, and lastly a stationary derivation of $+10°$ for a depth of one centimetre.

Therefore it is possible to say, with certainty, that the difference of the rotatory power depended on the product added—glucose—and that this power varied with the manner of dialysis.

Also, the statement of Dr. Mansfeld—that an adulteration of honey with ten per cent. of glucose could not be demonstrated with certainty—can in future be refuted. I have also been able completely to refute the statements made by Dr. Dietrich in 1891.

Later I learnt the following at Heidelberg:—

Dr. Haenle received from M. Bruder, of Waldshut, two samples of honey for analysis. Dr. Haenle reported:—

"Honey *B.* contains five per cent. of impurity. Honey *Sch.* is adulterated with seventy-five per cent. of glucose. It is composed of seventy-five parts glucose and twenty-five of honey. This honey should be seized, and the vendor prosecuted."

After Dr. Haenle had communicated this result to M. Bruder, this gentleman wrote on the 2nd of November, 1891:—

"To Dr. Haenle, Strasburg.

"I voluntarily inform you that the sample *B.* is a honey from Eastern Prussia, adulterated with about five per cent. of so-called Swiss honey. That marked *Sch.* is commercial table honey.—Yours truly, HERMANN BRUDER."

Lastly, I will mention one more fact which proves that it is possible to detect an adulteration of less than five per cent.

Dr. Bücher, Chief Official Analyst, sent me, by his assistant, on the 9th of April, at 3 p.m., a sample, with request that I would analyse it. I would remark that the only object was to test Dr. Haenle's method.

I asked the assistant to return at six o'clock. The honey was analysed, and I found an adulteration of 6·90 per cent.

He returned at six o'clock, and when I told him the result he, in turn, told me the composition of the honey that he had adulterated was as follows:—Honey, 85·05 per cent.; water, 4·65 per cent.; grape sugar, 9 per cent. Therefore the adulteration was approximately confirmed by my analysis.

I would remark that both these gentlemen, accustomed to analysis in my laboratory, have expressed themselves very favourably towards Dr. Haenle's method, especially with regard to dialysis.

A. SENDELE,

Chief of the Chemical Laboratory of the Apicultural Society of Heidelberg.

It will now be seen that, in the interest of a good cause, well established, it is to be hoped that all who feel capable will join our ranks, and spread the light of science, where darkness still reigns, for the benefit of humanity, for the honour of international science, and that, without envy, there should be recognition of those who have similar results to report.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE "SUGAR-HONEY" QUESTION.

[1358]. "And now the question in England is whether a pound bottle shall hold fourteen or sixteen ounces."

Such is the manner in which Dr. Miller, in one of his "Stray Straws" in *Gleanings*, sums up the "standard bottle" discussion in the *B. B. J.* I fancy this is only a bit of sly humour on the part of the genial Doctor, as, with his knowledge of bees and honey, he must be perfectly aware that no bottle could be manufactured or devised to hold exactly either fourteen or sixteen ounces, unless we could first arrive at the impossible consummation of a "standard density" of honey; and he knows perfectly well that, in looking for a standard bottle, we seek such a one as, taking the average density of good honey, will be fair alike to producer and consumer.

Without any intention of a *tu quoque* to Dr. Miller, or to any of our transatlantic friends, the subject leads me naturally to the latest discussion in the American bee journals, for while we were trying to find the best jar to hold our honey, they have been striving to find something with which to fill their honey jars. Much has been written and said in the past on the subject of adulteration of American honey, but I do not think any of the blame for this adulteration has been given to American bee-keepers. The dealer has always been (I think justly) looked upon as the guilty party; it was therefore with much surprise that I saw the sugar-honey movement supported by some large bee-keepers, whose names have always been a guarantee of good faith and fair dealing. These gentlemen advocated the practice under the firm belief that sugar fed to bees was by them converted into genuine honey, and that, therefore, the trade was perfectly legitimate and honest. To the credit of American bee-keepers generally be it said that the proposal to manufacture sugar honey was met with a perfect howl of dissent alike from associations and individuals; many considered it simply dishonest, and many, with Yankee shrewdness, saw in it the ruin of bee-keeping. In ordinary seasons, the supply of the genuine article being beyond the demand, any artificial addition to that supply would mean the lowering of prices already too low to be fairly remunerative.

The discussion is now at an end. One of the chief supporters of the movement agrees that the subject should be dropped, "at least for the present," while another candidly avows that he was mistaken, and frankly owns up to an error in judgment. However, although the matter will no longer find a place in the journals, it is to be feared that its mischievous effects will remain. Numbers of small bee-keepers in the States were only too glad to find so easy a remedy for the dearth of surplus honey, and, backed as the movement was by such honourable names, they felt that they could honestly go for sugar-feeding to produce honey, and have made their arrangements for the coming season accordingly. The question is, will the recantation of the principal supporters of the movement be as convincing to all of these expectant sugar honey manufacturers as their still unforgotten arguments in its favour? At any rate it must be assumed that some at least of this spurious honey will be produced and thrown on the market. A great number will make it as an experiment. Some may offer it, as Prof. Cook advises, labelled as sugar honey, while others may sell it unblushingly as "pure honey." In support of this view one prominent bee-keeper

says that he is inundated with inquiries as to the *modus operandi*, and he not even favourable to the movement.

The strongest arguments brought forward in favour of sugar honey were: firstly, it, to some people, tasted like honey; secondly, no analyst could distinguish it from honey, chemically; and thirdly, the bees themselves, by storing sap of the sugar maple, were guilty of the sugar-honey dodge on their own account.

The mass of evidence is strongly opposed to argument No. 1. With regard to argument No. 2, Professor H. W. Wiley, while emphatically denying that sugar fed to bees is anything more than invert sugar, and certainly *not* honey, confesses that science cannot yet determine between the two; but he hopes, in a very short time, to find tests which will clearly show the difference.

In its consumption, honey is either an article of luxury or a medicine; as the first, it owes most of its value to its peculiar floral flavour, which (argument No. 1 to the contrary notwithstanding), cannot be imitated in invert cane sugar, and it is fair to assume that its floral origin gives to it its medicinal properties —properties which sugar certainly does not possess. But, as an article of luxury, let us, for the sake of argument, assume that, to some palates, sugar honey exactly resembles genuine honey; even that would not make the trade in sugar honey an honest one. I have heard some people declare that margarine is quite as good as butter, and even better than some samples of the real article. Still, it is not butter, and the law very properly insists that it shall be sold only under its proper trade name of margarine. Equally, invert sugar is no more honey than wooden nutmegs are the fragrant, spicy article they outwardly imitate, or than double-pointed shoe pegs are good nourishing oats.—J. W. Wilson, *Revesby, Boston, February 6th*, 1893.

[We have not alluded to the controversy that has been going on in the American papers with regard to feeding bees with sugar syrup to produce comb honey, as we cannot conceive anything that would be more injurious to the bee-keeping industry than that such a form of adulteration should for a moment be countenanced. That such a suggestion, although made under the supposition that sugar syrup was really converted into honey, should have come from a few bee-keepers, and those holding a leading position in America, is unfortunate. It was supposed by them that in consequence of the conversion of the cane sugar which nectar contains into the grape sugar of honey, that also ordinary cane sugar given to bees would in like manner be converted; but, although to some people this may taste like honey, it is hardly correct to say that no analyst could discern it from honey. Fortunately, the resources of civilisation are not yet exhausted, and we are now publishing an article on the examination of honey by dialysis, which clearly shows that it is possible to detect this form of adulteration with certainty. This method of examination has evidently not been tried in America, but we published particulars of it on page 197 of the *B. B. J.* for 1891. On referring to the table we gave on page 75, we would draw attention to the Nos. 49, 50, and 51, which refer to cane-sugar syrup given to bees, and stored by them in combs. All pure honey after dialysis turns the ray of polarised light to the left, whereas all other sugars turn it to the right, even after dialysis, and the amount of admixture of any of these to pure honey can be determined by the amount of rotation. Besides, honey contains essential oils derived from different plants which impart the aroma, as well as a certain quantity of formic acid and traces of other saccharine substances not found in syrup. Therefore, to call sugar syrup—even after it had been stored by bees—honey, is a misnomer. The strong measures taken by the B.B.K.A. some years ago to put a stop to adulteration had the desired effect. We are glad to find that there has been such a determined stand made by bee-keepers in America not to countenance this form of adulteration. We also hope that our American friends will avail themselves of these means of detecting any such adulteration, by those who may try it on during the coming season. The articles we are now publishing will be of special interest in connexion with our correspondent's letter.—Eds.]

STORING SURPLUS.

[1359.] Mr. Woodley, in his "Notes by the Way," to which I always look forward with pleasure, is kind enough to give my plan for increasing the surplus stored by swarms a favourably notice. At the same time he propounds queries evidently with a view to getting fuller information for those who may be induced to try the plan.

The building of drone comb on the removal of the blocks need not be feared if my advice is carried out, viz., to remove them when the honey-flow is on the wane.

In this district, up to the past season, it has been necessary, for want of late crops, to feed slowly from the close of the honey-flow until the time for feeding up for winter, and I have invariably found that when comb is built under such circumstances, it is of worker-cells; in fast, I think it may be taken as a general rule that, except when there is a plentiful supply of food, or when the bees desire to raise drones, no drone-cells are formed, and this is more particularly the case with swarms headed with young queens.

If the frame-blocks are removed at the close of the honey-flow, there will be, as a rule, a strong lot of bees, and in order to get the combs built down and filled with brood, which should be an important object, one frame should be placed between the full combs, and it may also be advisable, as the hive would then be full of frames, to remove those on the outside, substituting dummies, and then a dummy or other

feeder, full of Porto Rico sugar, should be given.

I adopt the solid block because I wish to have, as it were, a continuous floor just under the combs, except in the middle, where I give two full sheets of foundation or combs.

By adopting Mr. Woodley's suggestion, worker-cells to the bottom bar, after removing supers, would be assured; so it is, I think, without it. The mortice at one end of the block is, as shown in the illustration in my former letter, cut twice as deep as the other, and the block is then slipped in and out of the frame easily.

By halving the block and fixing it so as to cover the lower part of the sheet of foundation, the bees would build out the foundation and attach the combs to the block, thus causing some difficulty in removing the latter, which could not be done without the aid of a knife to sever the attachments.

I cannot go so far as to agree with Mr. Woodley when he says that my plan proves the utility of the shallow Heddon hive. I never did favour shallow frames being used as brood frames, because, though the surplus is very materially increased by their use, the disadvantage of having the stocks upon shallow frames is, to my mind, too great.

By my plan I have no doubt that, having the confined space allowed by shallow frames, strong swarms will have their energies, almost immediately after hiving, concentrated—as should be the case—on storing surplus; the completing of the combs, and the consequent strengthening of the colony, with a view to future success, being left until the supers have been removed. —C. N. WHITE, *Somersham, Hunts.*

BEE EXPERIENCES.

WHAT MY BEES HAVE DONE FOR ME.

[1360.] Pre-supposing that some little interest always attaches itself to the doings of amateur bee-keepers, I send a brief account of my profit and loss in buying bees and experience. Beginning in spring 1886, my one stock cost 1*l.*, appliances 18*s.* 8*d*; bought bees in skep in autumn for 10*s.*—total 2*l.* 8*s.* 8*d.* Receipts 8*s.* 3*d.* Debit balance 2*l.* 0*s.* 5*d.*

Began 1887 with three stocks. Had, along with every one else, a good season, but foolishly sold my honey in a hurry wholesale at 7½*d.*, less carriage, when by waiting I could have realised 9*d.* at home and no carriage to pay. Receipts 1*l.* 13*s.* 7*d.*; outlay 1*l.* 0*s.* 6*d.*—so my debit balance stood at 1*l.* 7*s.* 4*d.*

1888. One of the worst bee-years on record, and as a result my adverse balance was increased to 2*l.* 3*s.* 0*d.* However, the experience gained was worth something.

1889. Wintered four stocks safely, and my receipts for honey sold were 2*l.* 18*s.* 5*d.*, expenses 13*s.* 11*d.*; this wiped off all my outlay and left me with 1*s.* 6*d.* to the good, but I also seemed to have entered on a new life in bee-keeping, as I had got hold of the proper method of managing them. So I resolved to have a hive to work on the doubling system, and in consequence I had an outlay in 1890 of 2*l.* 4*s.* 3½*d.* against receipts 1*l.* 14*s.* 1½*d.*—adverse balance 8*s.* 8*d.* But 1890 was a poor honey year with me.

1891. Began with four stocks, which yielded me 2*l.* 11*s.* 9*d.*, expenses 6*s.* 7*d.*—credit balance 1*l.* 17*s.* 3*d.*

1892. I found one of my hives queenless, so had only three to rely on. My receipts, however, were 3*l.* 6*s.* 4*d.*, expenses 12*s.*, so I had a total sum of 4*l.* 11*s.* 7*d.* over and above all my outlay, while my bees, hives, &c., I consider worth fully 6*l.* and with this result I am so far very well satisfied.

In coming to close details, I ought to say I don't charge the bees for the small amount of sugar I give them in the spring, and I don't credit them with what honey I use myself or give away, which this year has not been less than twenty pounds, so you see I have not increased my stocks very fast, as I took your advice to learn how to manage them first; but I intend having another good hive this year. I put up five stocks for winter, and was very pleased to see four of them very busy gathering pollen on the 19th. I and my bees are very great friends, and I find them a great pleasure to me. Hoping we bee-keepers will all have a good year—A NORTHAMPTONSHIRE BEE-KEEPER.

THE WELLS HIVE.

[1361.] I do not always find it very easy to follow written directions, probably owing more to my own obtuseness than to any other reason. In your issue of February 9th (p. 51) you say, "The special features his hives do possess . . . are those of having at least *fourteen* or *sixteen* standard frames," &c. Now, I do not see whether this means fourteen or sixteen in *each* division, or only that number in the entire hive. I think you probably mean the latter; but, as I have worked my hives heretofore with at least ten frames in each, fourteen or sixteen, or even eighteen does not appear to me to be sufficient for the two compartments.

But there is a much greater difficulty in the next paragraph, in which you speak of the floor-board admitting of "being lowered two inches or more in front, when required." I should be very glad if you would explain how this is to be accomplished. The hive stands on the floor-board from end to end and from front to back. By contrivance can it be lowered two inches in front? and if so lowered, what becomes of the two inches space thus made under the dummies and the frames, and what is to prevent the two queens getting at each other? I cannot understand it "at all, at all," as Paddy would say, and, moreover, what is the object of this two-inch opening?

Now I am writing, may I mention a clearing-board which I have found very effectual all my

bee-life? It is simply a frame sixteen inches square, made of deal two inches wide and three-quarters of an inch thick. On each of the four sides two or more holes are bored from the outer to the inner edge, and in each hole a little tube of perforated zinc is inserted, which projects an inch beyond the outer edge. The frame has nailed to it a piece of board, which covers it on one side, thus forming a little well fourteen inches square and three-quarters of an inch deep. The section rack, whether containing seven, fourteen, or twenty-one sections, is removed from the hive and set upon this frame, covering the well. I find the bees will all leave in two or three hours through the zinc tubes, none returning that way.—T. I., *Maldon, Essex.*

[To arrive at even a superficial understanding of the "Wells System" our correspondent must read Mr. Wells' own description of it. Reference to *Bee Journal* for April 7th, 1892 (p. 132), will make clear the points referred to. To admit of floor-boards being lowered, the hive must have fixed legs, and the floor-board slides on runners fixed on the inner sides of these, so that it may be lowered or removed altogether without disturbing the frames. Such hives are quite common.—EDS.]

PROPOSED BEE-KEEPERS' ASSOCIATION FOR NORTHUMBERLAND AND DURHAM.

[1362.] I have been asked to propose, through your columns, the formation of a Bee-keepers' Association for Northumberland and Durham, and, with your permission, I have pleasure in doing so. I believe that one or two local Associations did at one time exist, but they appear to have served their generation and fallen asleep. As matters now stand, a new Association could have a very large district all to itself, and I think it would readily justify its existence. Local bee-keepers would appreciate the introduction to each other, with all the opportunities of mutual enlightenment and assistance which a well-supported society could provide.

I am writing on the note-paper of a society (the Northern Allotments Society) which has done good practical work for horticulturists by providing small allotment gardens within convenient reach and at reasonable rents, besides other work benefiting members.

Bee-keeping is a department of small farming which we advocate, and which has been extended somewhat by our action. Lectures and discussions on fruit-growing promoted by our society have not been complete without an adequate reference to bee-keeping, and the provision of gardens by the score has made it possible for amateurs to embark with a hive. I shall be glad to hear from local correspondents, either through your columns or direct, with a view to arranging some concerted action.—J. W. WAKINSHAW, *Northern Allotments Society, Office, 40 Dean Street, Newcastle-on-Tyne.*

NATIONAL HONEY SHOW—A SUGGESTION.

[1363.] Mr. J. D. McNally (1342, p. 66) proposes that the B.B.K.A. hold an annual National Show. This would doubtless be a good thing for the few fortunate exhibitors who scored honours, but what about the disappointed thousands who could not possibly get a prize, to say nothing of the labour devolving on the judges? The object of the B.B.K.A., I take it, is to do the greatest good to the greatest number, but the cost is in the way. I would, therefore, suggest—(1) That exhibits of one bottle or section (or six, if necessary) should be invited from the three kingdoms, and should become the property of the B.B.K.A. (2) That certificates of several grades should be awarded to all exhibits which come up to the judges' standard. (3) That no money prizes be given.

The giving no money prizes would reduce expenses, and the certificates of a body like the B.B.K.A. would be of more value to the recipients than cash. Then, as the judges would only have to divide the whole into several classes, there would be no occasion for the hair-splitting unavoidably attendant on deciding which is best where hundreds are so nearly equal.—W. H. AUGUR, *Staines.*

MAKING SYRUP AND SCENTING THE SAME.

[1364.] I for one am very grateful to Mr. Webster for his letter (1303, p. 28). Several times last year, especially in the autumn, I experienced great bother by the syrup granulating. It was no joke to have to clean out the feeders day after day. For the future I intend adopting the plan referred to. I also thank "T. W." for his suggestion (1334, p. 57). One wonders why we never thought of it before. I consider it a capital idea.—PERCY LEIGH, *Beemount, Stoke Prior.*

A "MANY-QUEENED" HIVE.

[1365.] Will you kindly allow me to ask Mr. Perry for a description of his many-queened hive, and his method of stocking and working it? I think a full and clear account will materially aid such readers of the *B.B.J.* as may, like myself, be prospective experimentalists on the "Wells" system in "spotting" the essentials and eliminating the non-essentials of this new departure. Mr. Woodley's proposed plan appears at first sight quite feasible. Two difficulties in its execution, however, occur to me, viz. (*a*), the difficulty of finding two weak stocks standing side by side (and they *must* so stand some time before being operated on); (*b*), the difficulty of placing brood combs of each stock close up to the perforated division-board without exciting the bees to murder and regicide. The former difficulty might, perhaps, be overcome by using a strong and a weak stock in lieu of two weak ones; the latter is more formidable,

but should not prove insuperable in hands of Mr. Woodley's experience.

Syrup-making.—Although I have discarded syrup for spring feeding and stimulation, I shall be very glad to see it positively stated that syrup, made without boiling, is properly inverted by the usual addition of vinegar, &c., and therefore fit for immediate use without abnormally taxing the physiological energies of the bees.

Pea-flour.—Perhaps I may be allowed to say, under this head, that if Mr. Webster will fit up an old hive or box with three bars at usual distance apart, and pour and spread the flour upon both sides of the middle frame, he will find that the bees will carry it off in *glistening* loads, without kicking up a dust or even dusting their jackets.—E. B., *March 5th*, 1893.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of February, 1893, was 1133*l.* — *From a return furnished by the Statistical Office, H. M. Customs.*

Queries and Replies.

[727.] *Copyright Acts.*— Your foot-note under the heading of "Lantern Slides" (1345, p. 68) is very important and instructive. Can I draw from it the inference, and be correct in doing so, that if I make a pencil sketch of an "illustration" in order to hang it in my own room, or paint an illustration in oil or water colour for the same purpose, or *sell* such a sketch in pencil or colour to a friend for his room, I am thereby chargeable with "piracy," and so indictable? I think with you, sir, that many are ignorant of the law on this matter, and would appreciate instruction on the subject.—Ανθρωπος.

Reply.—There is no doubt that to copy illustrations, and to sell them even to a friend, *is* indictable under the Act.

[728.] *Granulation of Honey after Heating.*—About the end of September last I expressed from some thirty more or less imperfect sections several pounds of honey, which was put into one-pound bottles, and in about a month's time was all nicely crystallised. The crushed comb was at once put into a large glass jar, immersed three parts in a pan of water, and put on the fire until the wax was melted and rose to the surface, whence it was removed when hard, the honey poured into a large and a small glass jar. The honey in the large jar has never crystallised, that in the small one only very slightly at the bottom. What change—chemical or otherwise—is the cause of this?—Pagvs, *Warwick.*

Reply.—Without entering into the "chemical" reason for the change, it may be said that honey, after being heated, will frequently remain for many months in liquid condition.

Echoes from the Hives.

Staines, February 7th.—All stocks (twelve) on wing. This the first general cleansing flight this year, although a few bees have been occasionally flying for some weeks past. I noticed one bee-load of pollen taken into a strong stock. *February 19th.*—Bees flying as if it were June; several stocks carrying pollen freely.—W. H. Augur.

"*Honey Cott*," *Weston, Leamington, March 4th.*—Here, as well as most places, on the 19th February, the bees had a grand day, 56° Fahr. in the shade, and 74° in the sun, bees rushing about helter-skelter, on the look-out everywhere. Unfortunately we have nothing nearer than the woods a mile away, except a few snowdrops and crocuses, which were visited by hundreds of bees. Several days again this week it has been very mild, and natural pollen begins to roll in. A few days ago, I found one stock gone, that I had missed in feeding up in the autumn. All others are in fair condition, and if the weather still continues mild I expect to put out the pea-flour for two or three weeks. I saw the watering-place was visited by great numbers of bees at noon to-day, showing unmistakably breeding was going on. Have only opened one hive as, I was afraid something was wrong, but it turned out all right. The other night I was giving a cake of candy and had the first sting of the season—on the forehead, which I think, I can fairly say, I rather enjoyed than otherwise. Well done, friend Woodley! for giving it those two gentlemen (three I might say), who recommend the feeding-up plan just before the harvest. Of course they will say the honey is three parts sugar. I quite like the idea of working two weak stocks *à la* Wells.—John Walton.

Kincardine Cottage, Airemore, N.B., February 18th.—On looking over my stocks (ten frame hives and two straw ruskies) I find all except one strong and taking advantage of the good weather. Also young bees had already hatched eggs laid, and queens all right with natural pollen plentiful. This is unusually early for the foot of the Grampians. On the 29th of January I noticed a couple of drones in a straw hive. On examining, saw that queen was an unfertilised drone-breeder.—A. Clarke.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. B. (Balham Hill).—*Suspected Combs.*—The combs sent bear no marked trace of disease, but if taken from a hive which was affected a year ago it would be very unwise to use them again for healthy bees. By all means melt all such combs down. March or April are good months for buying bees, but we cannot fix price for you, so much depends on the hive and the condition of the stock. Twenty

or twenty-five shillings might be a "fair price," or it might be *cheap* or *dear* for a stock in a frame hive, just according to its condition. Bees don't object to the hive interior being painted if done some time before using.

B. (Birmingham).—*Transferring Bees.*—Transferring combs and bees from "common boxes" is a serious undertaking for an amateur bee-keeper. The bees must first be "driven" from the combs, and the latter cut out in as large pieces as possible prior to tying them into the new frames; a warm greenhouse is a good place for the operation, and April or May a suitable time; but we would expect far better results under the circumstances if the bees were allowed to swarm naturally and build new combs in the frame hive.

J. S. & Co. (Cambs.)—No. 1 sugar is in our opinion not Porto Rico. No. 2, if pure cane, will do well for bee-syrup, but we should not like to guarantee its purity.

W. K. (Chester).—*Experts' Certificates.*—Mr. Huckle, secretary of the B.B.K.A., Kings Langley, will afford you every information on the subject.

F. F. (Clapham).—*Paper Feltine.*—The material sent is, we think, too absorbent for lining hives with, and would tend to keep the interior damp. Besides, the bees would be likely to nibble it away.

GEORGE R. ALLEN.—*Bee Flowers for Honey and Pollen.*—Since you limit us to three for honey, we advise *Limnanthes Douglasii*, mignonette, and borage. For pollen, confine yourself to crocus for spring. In summer pollen is plentiful in the fields. For candy-making the date of *B.J.* should have been 1891, not 1892; but instructions also appear in this issue.

"SWARM" (Salisbury).—*Marshmallow as a Bee Plant.*—Bees are very partial to marshmallow, but it is of more value for pollen than honey. Bees are sometimes less numerous in March than in February, owing to the rapid loss of old bees in early spring.

JOHN COLE (Ivybridge).—Honey is in our opinion perfectly "genuine." Excepting that it has not been very well ripened, it is a good sample of clover honey. We wish correspondents would remember that our only address is 17 King William Street, W.C. The above parcel cost us 3*d.* to repost it from Kings Langley.

F. JELLICOE.—Comb sent is badly affected with foul brood, and all combs and frames in such condition should be promptly destroyed. The white matter at bottom of cells is mildewed pollen.

Pressure on our space compels us to hold over the second portion of the paper on "Foul Brood," and several other Articles, Queries, &c., till next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence: for every additional Three words or under, One Penny.

BEE SEEDS recommended by Bee-keepers, guaranteed best sorts, 13 large Packets, 1s., post free. Address J. BENNETT, Bee-keeper, Seedsman, and Florist, 178 Spon Street, Coventry.

FOR SALE,—The "Wells" Hive, complete, with 40 Standard Frames, Metal Ends, Queen Excluder, Enamelled Quilt, Perforated Division, &c., new, interchangeable, 25s. Address H. Y. SKINNER, Broad Street, Whittlesea, Cambs.

BEE PLANTS.—Limnanthes Douglasii, 100, 1s. 3*d.*; Iceland Poppies, 25, 1s. 3*d.*; Golden-leaved Forget-me-not (novelty), 12, 1s. 3*d.* Seeds, 6*d.* packet. Address HUNTING, Loddon, Norfolk. 2

BEE SEEDS.—Immense Packet of suitable mixed sorts for Bees (by a Specialist). Post free, 1s. Address WILLIE, 11 Highfield Road, Coventry. 2

MARSHALL'S Soft Candy for Winter and Spring Feeding.—Soft Bee-Candy and Flour-Candy, exactly the same as that sent out by the late Walter Marshall, supplied by his Widow at 4s. 6*d* per dozen 1-lb. Cakes. Single Cakes, 5*d.* each. *Cash with order.* Address Mrs. W. MARSHALL, The Apiary, Sunny Hill, Hemel Hempstead. 2

BEES AND QUEENS.—Choice Ligurian, Carniolan, and English Stocks, Swarms, and Queens. Prices on application. Address C. T. OVERTON, Crawley, Sussex. 6

WANTED.—A Foreman Joiner; who understands Bee Appliances and Greenhouse Work preferred. Must be sober and have a good character. Cottage on premises. Apply, stating wages, to E. C. WALTON, Muskham, Newark.

PURE English Honey, in ½-Cwts., at 7*d.* per lb., tins free. Sample 2*d.* Deposit System. Address R. DUTTON, Terling, Witham, Essex.

GOOD Stocks of Healthy Bees from £1 upwards. Address JOHN WALTON, Honey Cott, Weston, Leamington. 2

FOR SALE.—Eight Cwt. of Granulated White Clover Honey. 7*d.* per lb. or offers. Sample 3*d.* Address, APIARIST, Fairspeir, Ascott Wychwood, Oxford.

ENGLISH, Carniolan, Italian Bees for Sale, in Bar-frame Hives. Apply THOS. HILL, Scotlands, Cannock Road, near Wolverhampton.

HIVES, &c., for Sale.—Twelve Straw, one Wood, few Stands, Covers, and Sundries. Clearing out. Lot cheap. Apply to J. W. THORP, Knutsford.

CHRISTMAS Roses, 3, 1s.; Japanese Anemones, 12, 1s. 6*d.*; Mrs. Sinkin's Pinks, 12, 2s.; Herbaceous Phloxes, assorted; Pyrethrums, grand colours, 12, 1s. 3*d.* Iceland Poppies, 24, 1s 3*d.* Iceland, Shirley, Mikado, Swan, Bride, Mephisto, Danebrog, Marselli, Poppy Seed, 2*d.* packet, 8, 1s. Other Choice Flower Seeds, 12 packets, 1s. Address VICAR, Eggington, Leighton Buzzard. 2

WANTED.—In April, a few Stocks of Healthy Bees, without Hives, not Ligurians.—Address A. LEATHAM, Misarden, Cirencester.

WHAT OFFERS in Bees, Honey, Wax, Bee Apparatus, or Money, for a Merritt Type-writer, in excellent condition?—Address AMBROSE OGLE, Laleham, Staines.

BEES of my well-known Strain. Pure Natives, Queens, 5s. each; 3 Frame Nuclei, 12s. 6*d.*; 6 Frame Stocks, 17s. 6*d.*; 8 Frame ditto, 20s. Packing included. Ready for delivery, weather permitting.—Address C. WHITING, Valley Apiary, Hundon, Clare, Suffolk.

SIX Strong Stocks of Bees in Skeps, safely packed on Rail, 12s. 6*d.* each; also Wooden Bee-House, in good condition, holds 12 Hives.—Apply R. BROWN, Flora Apiary, Somersham, Hunts. 2

EXTRACTOR WANTED.

FOR SALE or Exchange,—Wells' Hives, 22 framed body; Shallow-framed Crate, for 22 Frames; Section Crate to hold 64 Sections; Non-crushing Floor Board, Movable Porch, 25s. each; Well-made Cottage Straw Hives, from 1s. each.—Address H. SEAMARK, The Apiary, Willingham, Cambs.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 560. Vol. XXI. N.S. 168.] MARCH 16, 1893. [*Published Weekly.*

Editorial, Notices, &c.

"MANUFACTURED" HONEY.

Referring to the above subject, our esteemed correspondent, Mr. S. T. Pettit, of Belmont, Canada, under date January 16th, writes as follows:—

"Doubtless you have noticed the 'sugar honey' (so-called) fraud that our big cousins across the lines are discussing, and some recommending. Well, a few weeks ago, I brought the matter forward at a meeting of the Oxford B.K.A., and a resolution looking to legislation to prohibit the importation, production, and sale was unanimously carried. I was appointed a delegate to the O.B.K.A. to forward the matter there. Well, the Oxford Association discussed the matter very fully, and voted for legislation almost unanimously. A delegation of three was appointed to go to Ottawa, and, if possible, secure such legislation as will prohibit the importation, production, or sale of the fraudulent article in Canada. I am now deeply interested in this matter, and am anxious to secure all the information and assistance I can get from others, and as I feel sure you can help us, I approach you on the subject.

"Will you therefore kindly answer the following questions?

"1. Can honey-bees make honey of sugar syrup?

"2. If we feed syrup sugar to bees, and send the product to the English markets, what effect would that course have upon the sale of Canadian honey in English markets?

"3. Could you or your best chemists tell the difference between honey and the fraudulent article above referred to? Any suggestions concerning the above will be gladly received.

"P.S.—I expect shortly to be summoned to Ottawa, our capital, and as your opinions and views will have great weight with our Government, you will oblige by answering immediately."

This is the substance of our reply:—We stated that we were pleased to hear that the O.B.K.A. has taken up the so-called sugar-honey question, and has decided to ask for legislation on the subject. We could only look upon the practice of feeding bees on sugar syrup to produce combs as suicidal to the industry, and would do all in our power to prevent it. The public would naturally and very properly look upon this as adulteration, and the industry would suffer. To the questions we gave the following replies:—1. It is quite possible that a portion of the cane sugar in the syrup may be converted into grape sugar, but this does not make it honey. The principal characteristic of honey is the aroma that it has, and which differs according to the source from which the honey is derived. Then those who have written in favour of sugar syrup have omitted to note that there are saccharine substances in honey that are peculiar to it, and that would not be found in syrup.

2. It would not be long before your product would be shut out of our market, and it would do you an injury that you would be years in getting over. I have only to remind you of the adulteration of American honey some years ago, and although it is thirteen years since adulterated honey was introduced into this country by a man named Hoge and a well-known firm of American produce merchants, legitimate American honey has never taken its proper place in the market owing to the suspicion there still exists of its adulteration.

We further pointed out that we had public analysts and an analyst connected with the Association, and that the Association had been able to put a stop to such adulteration by taking action; that the B.B.K.A. exhibited analysed specimens of Hoge's preparations at the Health Exhibition, which ultimately led to his expulsion from that Exhibition. Also that the quantity of honey now imported from America was very small, and that we attribute this mainly to the fact of its having been adulterated in those days. We also pointed out that formerly sugar-fed supers were not uncommon, especially among Scotch bee-keepers, but that this fraud had been put a stop to by the energetic measures taken by the Association.

As all samples shown under the rules of the Association are liable to be analysed if suspected, such combs have not been shown for many years. There would be no difficulty in detecting sugar-fed combs, even if the bees were fed partly with honey. Formerly, when the polariscope only had been used for determining adulteration, it was difficult to detect cane sugar in honey. But now that dialysis before polarisation is resorted to, according to

the Haenle method, there is no difficulty in detecting the quantity of sugar given to bees to store in comb with the utmost certainty. We urged our correspondent to leave no stone unturned to prevent this attempt to introduce adulteration, which would not fail to have most disastrous consequences on the industry of bee-keeping.

This is the substance of our reply, but we would like to point out that the action of the B.B.K.A. was a death-blow to the production of these sugar-fed supers, and this probably accounts for the strong opposition Associations have received from some persons, especially in Scotland, whose gains have been reduced by the vigilance of these Associations.

IMPORTANT PAPER ON FOUL BROOD.

By J. J. MACKENZIE, B.A., *Bacteriologist of the Prov. Board of Health, Ont.*

(*Continued from page* 82.)

In considering the subject of the vitality of *Bacillus alvei*, the first question which naturally arises is its power to resist heat. We know that bacilli which produce spores and those which do not stand in entirely different positions in this regard. The sporeless bacillus is destroyed at a much lower temperature than one which contains spores. Consequently, in considering the question of the vitality of *Bacillus alvei*, which produces spores very quickly and easily, we may confine our attention entirely to the vitality of the spore.

This is of special interest, as the question has been repeatedly raised whether it is dangerous to use a comb foundation made from foul-broody wax. Does the temperature to which the wax is raised in the manufacture of comb foundation sufficiently destroy the vitality of the spore? Can the spore germinate and infect the brood when once enclosed in the wax?

These questions have been raised by many careful thinkers among bee-men, and certainly deserve attention. The second point ought to be considered first, since if surrounding a spore with a film of wax prevents its germination, we need pay no further attention to the question of heat. The crucial test of this would naturally be, supply a healthy colony with comb foundation known to contain the spores, and observe the result. This I had hoped to try with the assistance of your Secretary; but other work came up which interfered with the carrying out of the experiment, and consequently it had to be postponed until next year. However, I was able to perform one experiment which throws some light on the subject. Mr. Holtermann, the Secretary of your Union, sent me several pounds of very fine wax, such as is used for the manufacture of comb foundation. I cultivated the *Bacillus alvei* upon agar jelly, until I had a large quantity of the bacilli containing spores; this was carefully scraped off the jelly and dried, first in the air and then over sulphuric acid. The resulting greyish mass was pulverised with a sterilised pestle and mortar, and finally mixed thoroughly with the melted wax, kept at a temperature sufficiently low to prevent the immediate destruction of the spores by heat. By this means an enormous number of spores were introduced into the wax. After stirring the wax for some time in order to ensure a proper mixing, it was allowed to cool. This, as you all know, takes some time when dealing with a considerable quantity. During the cooling I was careful not to disturb the wax.

After it had solidified I set out to discover if I could again obtain my bacillus from the infected wax. If it could germinate in the nutrient media it certainly would in the bees, and that point was to a certain extent settled. Now I obtained the following results:—

From the upper layers of the infected wax I was unable to obtain cultures of the *Bacillus alvei*, either by melting the wax in the nutrient jellies or by allowing particles of the unmelted wax to fall on the surface of these jellies.

From the under layers, however, the results were different; particles of wax placed on nutrient agar in an oven kept at 90° F. became surrounded in twenty-four hours with a luxuriant growth of *Bacillus alvei*. When the wax was melted into the agar or into beef-tea I also obtained the bacillus, consequently it looks as if the mere fact of enveloping the spores with a film of wax was not sufficient to prevent germination. I confess I cannot understand how a spore could germinate when surrounded with a film of wax. Spores, in germinating, require moisture, and if a spore is completely embedded in wax, it cannot obtain sufficient moisture to germinate. I would rather believe, therefore, that in this particular experiment the spores had not each an envelope of wax, but that many of them were partially free from the wax. Now, if this was the case in my experiment, where I endeavoured to make the incorporation of the spores in the wax as thorough as possible, I certainly think it may frequently be the case when foul-broody wax is used, and no particular precautions taken. That even when spores are thoroughly surrounded by wax they may not be freed occasionally by the workers is a point which requires further elucidation, and upon which I intend to try some experiments next year.

In looking through the bee journals, however, I find it everywhere maintained by foundation-makers that they never knew of a case of foul brood originating from foul-broody wax; and I have yet to discover a well-authenticated case where this has occurred. What explanation can we offer of this widespread opinion?

I explained to you above that I was unable to cultivate *Bacillus alvei* from the upper layer of the infected wax. Your secretary also sent me a small specimen of wax, which he stated he knew to be from foul-broody comb. This I examined repeatedly for foul brood, but was unable to obtain it except once. I think we must

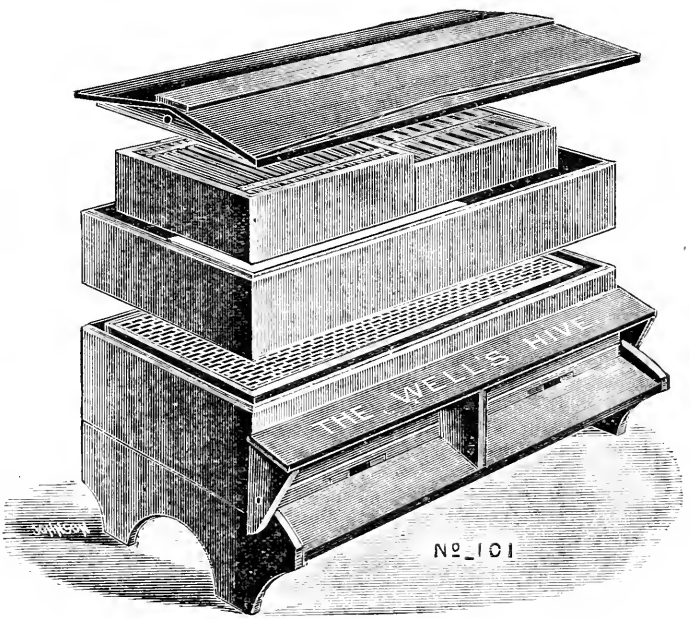
look to the physical conditions for an explanation of the freedom from infection through comb foundation. The difference in the specific gravity of the bacteria and of melted wax is so great that, throughout the process of manufacture, the bacteria tend to fall to the bottom. The first refining of the wax must, of course, remove the greater quantity, and the vast majority of the remainder will settle to the bottom during the process of foundation manufacture. But that the simple process of mixing the infected material with the melted wax is not sufficient to prevent germination, I think is shown by the results quoted above, where simple fragments of infected wax, when placed on agar jelly, gave rise to a culture of *Bacillus alvei*.

This question I hope to touch on again after I have had an opportunity of supplying healthy bees with foundation made from infected wax.

(To be continued.)

"WELLS" HIVES.

No. 1.—Meadows' "Wells" Hive.



The interest evinced by all classes of bee-keepers in what is now known as the "Wells" hive induces us to present illustrations of such hives as have been designed for the purpose of carrying out the plan of working with double-queened colonies. We have not, as yet, had an opportunity of making a personal inspection of the hives illustrated, and so confine ourselves to the description furnished by the manufacturers themselves.

No. 1 of the series is that of Mr. Meadows, of Syston, who was the first to send out an illustration of a "Wells" hive, which we give here.

The hive as shown consists of extra stout stand, forming legs, and is built on the plan of a separate outer case for brood and surplus chambers, the former holding twenty standard frames, fitted with W. B. C. ends resting on metal runners. It also has the "Wells" perforated dummy, two ordinary dummies, queen-excluder, two outer cases, and two section crates or shallow bodies, as preferred (one of each shown in illustration), improved roof, with new pattern bee-escape ventilators, and porch, with improved ventilating entrance. Shallow bodies or section racks have loose plinths fitted on bottom of one side, which can easily be removed. When working in pairs, a crate of sections, or shallow body, extending over full size of top, could not be readily handled when full because of the great weight.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

This Association, which was founded in April, 1891, continues to increase in membership, and full advantage is being taken of the benefits conferred upon those who join its ranks. The lending library now contains upwards of fifty volumes on bees and bee-keeping, both British and foreign. The Association has also been the means of finding a market for a considerable

quantity of the members' honey, and it is hoped that still more may be done in the coming season, improved arrangements having been made with retailers. Last week, Mr. J. Falconer King, Analyst to the City of Edinburgh, was appointed official analyst of the Association, and samples of the members' honey, as exhibited at shows or offered for sale, will, from time to time, be submitted to him for analysis and report. Through the instrumentality chiefly of Sir Thomas D. Gibson-Carmichael, Bart., and Colonel Bennett, of Ayr, three shows, under the auspices of the Association, have already been arranged for, particulars of which will be given later on. The second annual report, containing full particulars of the work done in the past year, together with other matters interesting to bee-keepers, will also be issued shortly. Copies will be forwarded to all members whose subscriptions for the current year have been paid. The Assistant Secretary will be glad to afford information with regard to the Association and its work to intending members.—JOHN WISHART, *Assistant Secretary, Market Place, Melrose, March 4th.*

LECTURE ON BEES.

On Thursday night, February 16th, a highly interesting lecture on "Bees and their Management" was given in the National Schoolroom, Orston (Notts), by Mr. Scattergood, in connexion with the Technical Education Committee of the Notts County Council. The lecturer, who was introduced by the Rev. T. W. Swan, vicar, explained that the County Council conferred a grant on the Nottinghamshire Bee-keepers' Association, who in their turn had laid on him the pleasing obligation of delivering this and similar lectures on apiculture. Mr. Turner, Radcliffe-on-Trent, assisted with the lantern, by which the lecturer's remarks were capitally illustrated. A description of the queen, the drones, and workers was graphically given, and their duties clearly set forth. The lecturer mentioned that of the varieties of bees, his preference lay with the British black bee, and expressed his conviction that bee-culture, with patience and perseverance, would be found to pay, and would be a suitable addition to the occupations of cottagers, artisans, small farmers, and others. At the close of the meeting, questions were asked, and received satisfactory answers from Mr. Scattergood.—*Communicated.*

SIR THOMAS GIBSON-CARMICHAEL ON HIVES.

On Saturday evening, February 25th, Sir Thomas D. Gibson-Carmichael, Bart., delivered a highly interesting lecture on "Hives" in the Parish Church of Kirkurd, which is situated on his Peeblesshire domain. There was a large audience, presided over by the Rev. Mr. Miller. Sir Thomas commenced by describing the hollow log hives used by primitive bee-keepers, and the cylindrical contrivances resembling a fire-clay drain-pipe which are so much in vogue in Southern Europe and North Africa. He went on to describe the Berlepsch and Gravenhorst hives, of which specimens were shown. Coming to British hives, the lecturer spoke on the advantages of the Stewarton, and its adaptability for use in most parts of Scotland. The ordinary bar-frame hive next receivad attention, and, in order to properly demonstrate its manufacture, a hive, ready prepared in the flat, was nailed together in presence of the audience. Sir Thomas also explained the advantages of having hives adapted for the safe conveyance of bees to and from the moors. Smaller bee-appliances were next described, as were other adjuncts to successful bee-management. The lecture, which occupied two hours in delivery, was most attentively listened to, and a very cordial vote of thanks awarded to Sir Thomas for his interesting lecture.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPING IN THE SOUTH OF FRANCE.

[1366.] In *B. J.* for January 19th, p. 27, your correspondent ("Constant Reader") asks a question which requires an answer. Here it is:—In relating the manner in which I manage my apiary in the country, I did not attempt to give a method. I simply stated the results obtained, with a minimum of care, in an apiary established for only two years. I only place strong hives in this apiary, and only use the horizontal hives of the Layens pattern. We have two classes of bee-keepers—amateurs and manufacturers, who have time to give their bees all the attention necessary for a large development of the colonies, and the peasants or cultivators of the soil, who can only give the attention which is absolutely indispensable, because they have not the time to give to the bees at the moment when they most require this attention. The same bee-keeper may have an apiary in his garden, and an out-apiary in the country, where he can seldom go. He will give the apiary in the garden all the attention

that is recommended in the best works, but will only visit the out-apiary when absolutely necessary. The apiary worked on this simple method undoubtedly does not give the same returns as the one which is well looked after; but I am persuaded that, if the bee-keeper understands his business thoroughly, in the average obtained for ten years the difference will not be very great. Must the peasant, who has not the time to attend to his hives, give up bee-keeping? I do not think so. Our districts will only produce much honey when every peasant (or cottager) has his own apiary and a sufficient number of bees to collect the nectar within a radius of a few hundred metres of his house. As your correspondent says, we lose the benefit of the swarms; but swarms are so rare with these large horizontal hives that they need not be taken into account. However, one can generally arrange with a neighbour, who, without giving very close attention, could hive any swarms that he might find. This method cannot be practised by beginners, but it takes little time to learn to manage an apiary in this way. This is what often happens in our districts. In the country, a large number of peasants have common skeps. They give them the attention which is almost none at all, and they are frightened when you talk to them of changing queens and stimulative feeding. If you show them, on the other hand, an apiary which is only visited three or four times a year, they decide to adopt frame hives, and from the first year they learn to manipulate them—for the transferring from their hives, and the care they have to give at the commencement compel them to study and make their apprenticeship. *The Management of an Isolated Apiary*, by M. de Layens, gives a clear idea of the method employed in our districts. A large number of bee-keepers around Albi work on this plan, and obtain fine jars of honey. You will find in our *Bulletin* (p. 159) an article published by M. Derosne in *Bulletin de la Société Courtoise*. This article confirms what I have stated. Our method does not, therefore, differ from the English, but it is carried out more simply and by men who have not the time to visit the bees often. In bee-keeping, more than in anything else, the end justifies the means, and the fine pots of honey are a proof that the method is good. M. Bertrand very justly says, in the *Revue*, No. 10, that the *intensive* method is practised by those who have the time to spare, and the *extensive* by those who are occupied with the work of farming.

After my letter appeared in the *B. B. J.*, I received a letter from one of your subscribers in Portugal (M. Van Ziller), who asked for particulars of our horizontal hives, which I have sent him.—L. FOURCASSIÉ, *Albi*.

[As we have seen apiaries worked on both methods on the Continent, we must caution our readers not to launch out on a large scale into bee-keeping on this system. There are not many countries sufficiently productive to allow such a method to succeed. We know that apiaries rarely visited and where the bees are left pretty much to themselves gradually decline, and the returns are very small indeed in proportion to what they are from those properly attended to. We last year visited hives worked on this system, and the bee-keeper opened them for us to see. We at once detected foul brood. Had this hive been left to itself for the whole season, as it was intended to do, without any examination, the whole apiary would have been infected. Our correspondent and several others who have advocated this let-alone system live in rich honey-producing districts, but those in less favoured districts have a very different tale to tell, and there we hear of dwindling apiaries. We may depend upon it that nothing is to be made honestly by bee-keeping without work, and the more attention of the proper sort we give to our bees when they require it, the better shall we be repaid for the trouble.—EDS.]

EARLY DRONES.

[1367.] Probably you get many "strange tales" told you, but I must add one to the number. Looking over my stocks to-day, I found them in splendid condition—plenty of bees, some with four frames of brood. Strangely enough, some of the strongest and best with young 1892 queens had *drones*, and those strong and healthy, for they took wing when I opened the hives. There were queens and eggs in each hive. None of my thirty-eight stocks have perished as yet. Is fifteen pounds of sealed stores enough to last till honey comes, or would you feed?—C. B. BARTLETT, *Witney, March 3rd.*

[The above is certainly "a strange tale," so far as early drones go. Fifteen pounds of stores at this season is quite enough to last till honey comes in.—EDS.]

AN EARLY SWARM (?).

[1368.] I send a cutting from our local paper of Friday, the 10th inst., thinking it might be of interest to some of the readers of *B. J. J.*—J. SMART, *Andover, March 11th.*

"*An Early Swarm.*—Owing to the lovely springlike weather we have been enjoying this week, a most singular occurrence took place in the village of Wherwell on Wednesday last. Mrs. Martha Hebberd, an old inhabitant, was seen about one o'clock hiving a swarm of bees. As it is exceptionally early for bees to swarm, this incident has caused no little interest among the villagers."

[We need hardly say the above would not be a normal or natural swarm. An examination of the hive from which the "swarm" issued would no doubt make it clear that either something had gone wrong with the queen or else that it was what is known as a "hunger swarm."—EDS.]

UNNATURAL OR ABNORMAL SWARMS.

[1369.] The weather being very warm here on the 8th, the bees belonging to a neighbour who keeps half-a-dozen frame hives and skeps were very busy bringing home pollen, when, about one o'clock, one of the skeps threw off a fair-sized swarm, which he put in a bar-frame hive full of comb. They seem working all right to-day. The parent stock was a stray swarm found in a neighbour's garden the end of July, and the bees had about three parts filled the hive with comb and honey. He has been feeding them lately with a little honey. We did not find any queen-cells in the skep, but there are a good number of bees left. Would it not have been wiser to have returned the swarm, and is it not a very unusual occurrence to happen in March? — G. FREEMAN, *Ringwood, Hants, March 11th.*

[The swarm is not a natural one, and should have been returned. As it is, we should unite the bees left in the skep to the swarm in the frame hive.—EDS.]

EARLY BREEDING IN THE NORTH.

[1370.] I have four frame hives, holding ten standard frames in each. The bees were, in the autumn, confined to eight frames, and I gave to each a cake of soft candy, then covered them warmly up, and left them alone until February 19th, which was a fine warm day. I therefore took the opportunity of having a look at them, and was pleased to find them all in excellent condition. I was also agreeably surprised to find that breeding had commenced in all of them. Two had brood on two frames, and the others brood on one; all the brood was situated directly beneath the candy, which I attribute to its stimulative influence.—JOHN CUTHBERTSON, *Bedlington, Northumberland, February 23rd.*

BEES, BIRDS, AND FLOWERS.

[1371.] This afternoon (6th) has been the most beautiful we have had this year, and I have been watching my bees working for pollen.

On February 9th, last year, I saw bees carrying pollen into nine hives, but being away from home on most fine day I never had a chance of seeing more than three lots last month.

Last year I wintered about forty stocks. This year I wintered fifty-one, out of which I lost two—one nucleus through the frost and one hive through a pair of mice making their nest in the middle of the combs. So, to-day, after dinner, I went out to inspect, and "pegged" forty-five out of the forty-nine now alive as carrying pollen. Of the four that did not carry in any, one appeared very strong, one nucleus very weak, and two fairly strong, but I cannot see any outward signs of queenlessness in these four. The flowers they appear to be gathering from are furze palm and a small yellow flower like a "gild cup," which has a green shining leaf, and grows on our sunny banks. The beautiful Lenten lily is just coming out here, and covers acres of ground, but my experience is that bees hardly ever touch them. Why this should be so I cannot think.

If any of your numerous readers would like some of those most lovely flowers for decorations or otherwise, let them send stamps at once to my address, and I will send by parcel post, after postage being deducted, flowers for the worth of their money.

As the pollen-bearers began to decrease through evening coming on, the tits began to accumulate, looking out for dead or weary bees left on the ground. I hardly ever see a blue-tit at the bees, the ones I am plagued mostly with are the great tit and the black-headed tit.

Bees were carrying pollen on the 5th inst. until three o'clock. I noticed with great satisfaction that a few pollen-laden bees entered the four hives into which none had been carried on the previous day.—W. L. PEATONS, *Lytchett Matravers, Poole, March 6th*, 1893.

TECHNICAL INSTRUCTION IN BEE-KEEPING IN CHESHIRE: WHAT WILL BECOME OF IT?

[1372.] I originally intended to write at length on a matter that chiefly concerns Cheshire bee-keepers, but, as that may result in delay, I have resolved to be brief, believing the subject will not want interest on that account. As is well-known to the readers of your excellent *Journal*, bee-keeping has been recognised as a fit subject to include in the educational work undertaken by the Technical Instruction Committee of the Cheshire County Council, which is, to a large extent, owing to representations made by the local Bee-keepers' Association—at any rate, it is generally understood they received a grant to enable them to do something to disseminate useful information throughout the county respecting bees and bee-keeping as a profitable minor rural industry. Not being "in touch" with the before-mentioned Association, I cannot, of course, speak authoritatively of the work that has been done, but I do know that lectures and demonstrations have been given. It now appears, however, that the arrangements hitherto in force have terminated, and the County Council have taken the work entirely into their own hands. As soon as I became aware of this I wrote to the Organizing Secretary for information, adding that I was occasionally consulted on bee-matters, and I should like to be in a position to refer inquirers to official sources of information. The Secretary obliged me with a prompt reply, stating that he was prepared to send a lecturer to any district making application, where an audience could be obtained.

I make no objection to the authorities teaching bee-keeping, and still less at their protecting

themselves against the possibility of sending lecturers to talk to empty benches: but I fear that if the matter rests where it is, technical instruction in bee-keeping will, as far as Cheshire is concerned, go out of sight. As will be readily perceived, the application for the lecturer will, in most cases, devolve upon some private individual, and he will necessarily feel responsibility respecting the audience, and their appreciation of the lectures. Under such conditions I do not anticipate many requisitions on the lecturer's time, and I have pointed this out to the Secretary, saying that I did not think there were many districts in the county where bee-keepers were sufficiently numerous to claim the services of a lecturer—and, moreover, lectures, however valuable they might be in some respects, were not precisely what novices in bee-keeping required. They want guidance, advice, and practical illustrations in the art, and if possible, opportunities of seeing practical bee-keeping on the best systems, and to have the benefit of contact with practical hands. In saying this I believe I am only reiterating opinions already expressed in your columns: at any rate, lukewarm official recognition of bee-keeping as a technical subject will not do much to develop apiculture in the county.

It is certainly true that technical instruction in agriculture, and subjects pertaining to it, has not met with much appreciation where it would naturally have been expected. An audience not exceeding a score at a dairy lecture I was anxious enough to go and hear, does not say much for rustic intelligence in a county like Cheshire, where the dairy industry is paramount. What hope then is there of creating interest in so small a thing as bee-keeping? Very little perhaps, still that little should be looked after and encouraged: it may gain strength in time, but, in my humble judgment, mere lecturing is not an effective means of accomplishing this end. The example of a few zealous bee-keepers working at different points would do more real good, and it is these, so I think, the authorities should put themselves in communication with. Perhaps you will favour us with an expression of opinion and a few words of advice.—A. Donbavand, *Sutton, March 4th*, 1893.

[We have received a copy of the Annual Report of the Lancashire and Cheshire B.K.A. (the "local association" referred to), the second paragraph of which report reads thus:—"The Technical Instruction Committee of the Lancashire County Council have shown their appreciation of what has been done, by allocating 200*l.* to enable ten apiaries to be established and instruction given to classes in practical bee-work in Lancashire." In view of what has been done in the sister county—as expressed in the above—the best "advice" it occurs to us to offer is that our correspondent should draw the attention of the Cheshire County Council to what has been done in Lancashire, and make an effort to induce them to do likewise.—Eds.]

MAKING SYRUP.

[1373.] I should not have replied to Mr. Webster's letter (1352, p. 85), only I do not wish him to have the impression that I intended writing anything discourteous or "hurling anything at anybody's head," as he seems to imagine. Indeed, I always read Mr. Webster's contributions with great interest. Mr. Webster, however, does not quite see my point. There is such a thing as getting the hot water from the kitchen boiler, and I wrote for the benefit of bee-keepers (not to run down Mr. Webster's ideas), to point out that it was not necessary, in making syrup (I did not contemplate making a hundredweight at a time), to put it on the fire at all. Of course, I considered that very few bee-keepers would make up more than two stone of sugar at a time. If you have to put it on the fire, it seems to me that it would not be any extra trouble, and only take up a very little more time, to keep it there until it boils. By my (or rather Mr. Walton's) plan, you can make your syrup in the can you keep it in.—Arthur J. H. Wood, *Bellwood, Ripon, March 3rd.*

QUEENS FERTILISED IN FULL COLONIES WITH LAYING QUEEN.

[1374.] Will your correspondent "J. G. K.," who in his letter (1001, p. 155, *B.J.*, April 21st of last year), *re* "Queens fertilised in full colonies with a laying queen," be kind enough to tell us through your *Journal* how he prevents the virgin queen (returning from her "honeymoon") from entering the part of hive containing the laying queen? It being my intention to re-queen my twelve stocks this spring, I thought his plan would suit me "down to the ground," as I could not undertake to make a dozen nucleus hives this spring, my leisure time being very limited. Could I use the Wells perforated dummy instead of the double queen-excluder zinc which Dr. Tinker advocates?—R. T., *Leicester.*

BEES IN NORTH DEVON.

The "Wells" Hive.

[1375.] The past season of 1892 was an average one in this district, my own stocks yielding about fifty pounds per hive. One hive, however, which I have been trying on a new principle, gave me 150 pounds surplus extracted honey. It is a ten-frame hive on the tiered-up plan. I have tried it three seasons now with splendid results and it has not swarmed. As Mr. Woodley says "We have not yet reached the topmost point of bee-keeping." There is a secret to be learned in queen-excluders yet. Referring to the entrances of Mr. Wells' hives, don't you think it would be better to have one in front and the other at the end? I have made three of these hives, holding twenty frames

each, into which I put driven bees last autumn. Two of these hives I made with entrances front and end, and the other one with both in front, all with movable floor-boards. Now, the two with entrance front and end are working well, gathering pollen freely, but one of the lots in the other hive is dead. They were two fine lots of bees when I put them in. There is about half a pint of bees, with queen dead. Now, in my opinion, it is a mistake having both entrances in front, for the bees would persist in going from one to the other and fighting when feeding up for winter. —I want to register a little article, will you kindly say where I am to send it?—T. J., *North Devon.*

[Seeing that Mr. Wells has never experienced trouble by having the entrances along the whole hive front, it is difficult to suppose that the mishap was caused by that part of the arrangement alone. Registration fees should be sent to H.M. Patent Office, Chancery Lane, London.—EDS.]

Queries and Replies.

[729.] *"Wells" Hives—Size of Entrance in Winter.*—1. Referring to lowering the floor-board and putting wedge of wood under the perforated dummy, would not a wedge of wood be required under the ordinary dummies, which would be lifted from the floor-board with the rest of the frames? 2. In working for extracted honey, do you leave the first crate of shallow frames (when filled) where it is, or lift it up and place the empty one underneath as with sections? 3. Don't you consider the entrance Mr. Wells leaves for his bees in winter, viz., "two inches the whole length of the hive" (1019, p. 193, May last) too much? What about the field-mouse? Perhaps he is not troubled with it. On examining one of my hives this spring, three large ones made their appearance from between the quilts; one I killed, but did not attempt to kill the others, because of disturbing the bees, so they got off scot free.—R. T., *Leicester.*

REPLY.—1. No. The only complete division required is in the centre. 2. In our own practice the first box of shallow frames given is left in its original position till the final removal at end of season. Boxes given later are dealt with according to circumstances. 3. Mr. Wells does not leave an entrance "two inches deep the whole length of the hive," as stated. He inserts a "block" with slides, by means of which the entrance is reduced to three-eighths deep, and any length as required.

[730.] *Drone-breeding Queen.* — I have a stock of bees that swarmed last June, and young queen did not mate up to end of season, but continued to lay and hatch out drones by the hundred. 1. What is the cause of her not mating, considering there were plenty of drones flying when she hatched out? To-day (March 8th) I see drones flying from this hive evidently hatched in worker-cells, as they are very small. 2. Will she mate this season, or must I behead her and unite bees to another stock, or re-queen? They are fairly strong, about five seams of bees now.—P. JAMES, *Merthyr Tydvil.*

REPLY.—1. Nothing less than a *post-mortem* will reveal the cause of non-fertilisation. 2. No. She will never be fertilised, and may be destroyed at once. The bees may be united to the next stock, but they are not likely to be of much service, as, apart from the drones, they must consist only of aged bees.

[731.] *Queens in Surplus Chambers.*—Last season the queen got through the excluder on one of my hives and began laying in the frames of the shallow-frame extracting super, so that when I packed for winter in September I was obliged to leave the super on (I took the excluder away), as it contained a good deal of brood and also a large quantity of the sealed stores necessary for winter consumption. I find she has started laying again this year in the super, and I want to know how I should proceed to get her to take to her proper quarters in the large frames below the super? If I drive her down and put on the excluder, I think probably the bees will continue to look after the brood above, and possibly she will get chilled. Kindly suggest what is best to be done.—J. G., *Shifnal.*

REPLY. — Replace the excluder when the queen and bees have taken full possession of the lower hive as a brood chamber; this will probably be about the second week in May.

[732.] *Adapting Hives to the "Wells System."*—If a long hive, having an opening one end, has an opening cut the other end, in order to adapt it to the "Wells system," would the draught pass straight through so much as to form a serious objection?—F. F., *Clapham.*

REPLY.—We think not.

[733.] *Giving Brood to Weak Stocks.*—Supposing I wished to build up a hive of eight frames to one of twelve with a view to carrying out the plan suggested by "J. O. C." (1353, p. 86) in *Bee Journal*, could I transfer four frames of brood from another stock? When would be the best time for doing so, and what precautions should be observed to avoid risk of chilling the brood by not having sufficient bees to cover it? Would it be better to introduce one frame at a time? In the directions given for *doubling* in Cowan's manual it seems to be assumed that a whole hive of frames of brood can be placed above another hive without risk. Is this so? If so, four frames should be safe if introduced at once.—LINCOLNSHIRE RECTOR.

REPLY.—We do not advise robbing good stocks of their brood to strengthen weak colonies, and never find stocks "increase too fast" for our own liking. As a matter of fact we would—in building up for the honey-flow—rather add combs of brood to strong stocks than

take any away. This is the sense in which "doubling" is advised in the *Guide-book*. "A whole hive of frames of brood may be given to a *very strong* colony without risk, and only such are recommended for "doubling." Giving weak stocks more combs of brood than the bees can cover would be very unwise indeed, especially in spring. Moreover, this plan of strengthening should in no case be adopted except by experienced hands.

[734.] *Late Start in Breeding.*—Saturday, the 4th inst., being a fine warm day, I overhauled and cleaned the floor-boards of my six stocks of bees, finding them all healthy-looking, fairly strong, and with, say, from six to seven frames half filled with capped food. 1. Not noticing any eggs or brood, would it be advisable to look again in a fortnight, as I did not even notice a queen, although pollen was being brought in? If I satisfy myself that the queens are all right, would it be any advantage to give them a little warm syrup every night for a time, because last year they were very late in beginning to breed? 2. I transferred on the same day two stocks into a Wells hive. One stock is working every day; with the other, however, only an occasional bee peeps out now and then. Is there any suggestive cause for this or reason for alarm?—Wm. Greener, *Gowertown, March 7th.*

Reply.—1. With so much food in store and pollen being carried into the hives, you will not have long to wait before sealed brood will be seen, but you are evidently in a late district with perhaps a scarcity of natural pollen. In the latter case we should advise a little soft candy mixed with pea-flour being given. 2. Something must be wrong to cause such a difference in the working of the respective stocks in the double-queened colony, and an inspection of the inactive one should at once be made, with the view of ascertaining the cause of difference.

[735.] *Artificial Pollen—Unprolific Queen.*—1. I enclose a sample of flour dust which the bees are collecting from the ventilator in the roof of our mill. Do you think it is suitable for bee-food? I examined twelve of my stocks of bees yesterday, and they all had brood on two or more frames, except one stock, which had none (not even eggs), and I thought it must be queenless, but on looking for her majesty, I found her. She was very small, and her wings were ragged. 2. Do you think there is anything wrong with her? It is a stronger stock, and has more stores than some of the others. The queen is probably entering on her third season.—Sarum, *Salisbury, March 9th.*

Reply.—1. Certainly. Wheaten flour is a good substitute for natural pollen. 2. It seems probable that the queen has met with some injury which has caused her to cease laying. If eggs are not seen in another week we should either re-queen or unite the bees to the next stock.

Echoes from the Hives.

Latimer, Chesham, Bucks, March 5th, 1893.—Bees have had a good day; pollen carried in freely. I saw a drone fly from my best hive to-day. Is this not early?—Ed. Stevens.

[Yes, very early.—Eds.]

Gas Works, Lauder, N.B., March 6th.—A good fresh day: bees out in great numbers, many young ones among them. The snow of last week is nearly gone. Snowdrops and aconite, hepatica, &c., coming out.—J. T.

Somersham, Hunts, March 8th.—We are having glorious bee-weather now, but I am afraid it will not last long. I noticed the first gooseberry buds in my garden to-day. I imagine your way many are to be seen.—C. N. White.

Steeple Aston, Oxon, March 11th, 1893.—My eight stocks (five frame hives and three skeps) have come through the winter well, and on the 8th inst. were all busy carrying in pollen from crocuses, snowdrops, and apricot blossom, of which latter there is abundance this year. Do they get any honey from this? [Yes.—Eds.] I find that three stocks being fed with candy seem to be much busier than those to which I have given none. I was rather amused at friend Walton (p. 99) *enjoying* his "first sting of the season." My own sense of enjoyment is not quite so *keen*.—G. Jordan.

WEATHER REPORT.

Westbourne, Sussex.

February, 1893.

Rainfall, 3·18 in.	Sunshine, 82·3 hrs.
Heaviest fall, ·45 on 19th.	Brightest day, 28th, 7·85 hrs.
Rain fell on 24 days.	Sunless days, 6.
Above average, 1·79.	Below average, 15·5 hrs.
Max. temp., 51° on 7th.	Mean max., 45°.
	Mean min., 35·3°.
Min. temp., 25° on 6th	Mean temp., 40°.
Min. on grass, 18° on 6th.	Max. barometer, 30·49 on 6th.
Frosty nights, 8.	Min. barometer, 28·60 on 21st.

All hives healthy. But very little pollen-gathering owing to damp, and absence of sunshine.—L. B. Birkett.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

John Chisholm (Bedale, York).—*Fusball and Bees.*—The plan of stupefying bees by the fumes of what is known as "fusball" is a very old one, but is now seldom practised, as more modern methods have the same advantages and fewer objections.

G. O. B. (Wandsworth).—Bees sent have apparently died through becoming separated from the cluster in cold weather. There is no cause for alarm under the circumstances.

J. BRADFORD.—Bee sent is not a queen at all—only a worker.

AMATEUR CARPENTER (Kidderminster).—*"Wells" Hives.*—1. We can only refer you to such illustrations as appear in our pages. There is no special "Wells" hive, and it will be for readers themselves to say which they prefer of those now being made under that name. 2. A south-east aspect is best for hives. 3. Instruction for making an extractor may be had post free from this office for 3½*d.* in stamps.

TRANSFER (Charlton).—*Transferring Bees from Skep.*—The safest and best way for an amateur is to fit the frames of the modern hive with full sheets of foundation, and make an "adapter"—*i.e.*, a cover for the frame—of half-inch board, with a four-inch hole in centre. Fix this above frame hive, and, when the skep begins to get crowded with bees (say, beginning of May), lift it from the floor-board, and set it on the adapter above the frames, carefully packing the junction with paper to keep in the bees and maintain the warmth. The bees will work down into the frame hive, and eventually use the skep as a super. If the above plan be not followed we should allow the skep to swarm rather than patch up its old combs into the frames of a new hive.

JAS. K. STILWELL (Haslemere).—*Moving Bees into Clean Hives.*—When mention is made of finding "a lot of small insects below the quilts," do you mean *insects* or larvæ? If the former, we cannot think what they are. If the "insects" are the larvæ (or caterpillar) of the wax-moth, there may be no need for doing more than giving fresh quilts. Referring to suspected dysentery, the combs will show if the bees are afflicted that way by being soiled with bee-excrement. A clean, dry hive, and warm, well-made food is the remedy.

G. HEAD (Winkfield).—*Queen Killed and Thrown Out.*—We fear the death of queen sent has been caused by opening the hive and unduly exciting the bees when examining the combs. If you have the *Guide-book*, or any book on bee-keeping, refer to it for instruction as to uniting skeps to frame hives. It would take too much space for insertion here.

J. G. B. (Stockton).—*Honey from Lime-trees.*—Limes usually yield honey in July. Probably three or four years will elapse before the young trees will bloom in any quantity.

Pressure on our space compels us to hold over several Letters, Queries, &c., till next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEE PLANTS.—Limnanthes Douglasii, 100, 1s. 3*d.*; Iceland Poppies, 25, 1s. 3*d.*; Golden-leaved Forget-me-not (novelty), 12, 1s. 3*d.* Seeds, 6*d.* packet. Address HUNTING, Loddon, Norfolk.

BEE SEEDS.—Immense Packet of suitable mixed sorts, 20 varieties, for Bees (by a Specialist). Post free, 1s. Address WILLIE, 11 Highfield Road, Coventry.

MARSHALL'S Soft Candy for Winter and Spring Feeding.—Soft Bee-Candy and Flour-Candy, exactly the same as that sent out by the late Walter Marshall, supplied by his Widow at 4s. 6*d.* per dozen 1-lb. Cakes. Single Cakes, 5*d.* each. *Cash with order.* Address Mrs. W. MARSHALL, The Apiary, Sunny Hill, Hemel Hempstead.

BEES AND QUEENS.—Choice Ligurian, Carniolan, and English Stocks, Swarms, and Queens. Prices on application. Address C. T. OVERTON, Crawley, Sussex. 5

PURE English Honey, in ¼-Cwts., at 7*d.* per lb., tins free. Sample 2*d.* Deposit System. Address R. DUTTON, Terling, Witham, Essex.

GOOD Stocks of Healthy Bees from £1 upwards. Address JOHN WALTON, Honey Cott, Weston, Leamington.

CHRISTMAS Roses, 3, 1s.; Japanese Anemones, 12, 1s. 6*d.*; Mrs. Sinkin's Pinks, 12, 2s.; Herbaceous Phloxes, assorted; Pyrethrums, grand colours, 12, 1s. 3*d.* Iceland Poppies, 24, 1s 3*d.* Iceland, Shirley, Mikado, Swan, Bride, Mephisto, Danebrog, Marselli, Poppy Seed, 2*d.* packet, 8, 1s. Other Choice Flower Seeds, 12 packets, 1s. Address VICAR, Eggington, Leighton Buzzard.

WANTED.—Abbott's Special Observatory Hive (No. 12). Particulars and price to GARNETT, Steade Road, Sheffield.

FOR SALE.—Strong Stocks of Bees in Abbott's Long Hives, Standard Frames. Apply to Mrs. CLARK, Shareshill, Wolverhampton, Staffordshire.

FOR SALE.—Two Strong Honey Extractors, best quality, take one Standard Frame, 7s. each, 13s. the two. Address HINSON, Parkgate Road, Reigate.

FOR SALE.—A large quantity of Pure Extracted English Honey, at 4½*d.* and 5*d.* per lb., in 56-lb. and about 70-lb. Tins. Tins and packing returnable. Sample, three stamps. Address W. C. RANSOM, Great Barton, near Bury St. Edmunds.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 561. Vol. XXI. N.S. 169.] MARCH 23, 1893. [*Published Weekly.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The annual general meeting took place on the 15th inst., at 3.30 p.m., in the offices of the R.S.P.C.A., 105 Jermyn Street, S.W., when Mr. T. W. Cowan (Chairman of Committee) presided, and was supported by the Hon. and Rev. Henry Bligh, the Rev. Dr. Bartrum, Revs. F. T. Scott, G. C. Bancks, and W. E. Burkitt, Captain Campbell, Major Fair, Messrs. W. B. Carr, W. O'B. Glennie, J. Garratt, W. H. Harris, J. M. Hooker, H. Jonas, F. H. Meggy, E. D. Till, J. H. New, F. B. Blow, S. J. Baldwin, and many others. In the unavoidable absence of the Secretary, owing to his illness, the minutes of the last annual general meeting were read by Mr. Garratt and confirmed.

The Chairman moved: "That the report and balance-sheet issued for the year 1892 be received and adopted, with a vote of thanks to Mr. Kirchner, the Auditor." In alluding to the balance-sheet he regretted to be obliged to note a diminution of the income of the Association. Upon comparison with the financial statement of last year, it will be seen that there is a diminution of subscriptions and donations, and that the sale of publications had decreased. On the other hand, although the cost on shows was less, there is an extraordinary expenditure on account of a stock of medals of nearly 20*l.* The stock of the Society's publications had decreased, and no new ones had been added during the year. Their investments had slightly increased, but their trade and other debts were 18*l.* in excess of last year. He thought that their present financial position was in a large measure due to two causes. Firstly, because as fast as County Associations were formed, the subscriptions of residents in such counties were transferred from the central body to the local movement; and, secondly, the long illness of Mr. Huckle, which had prevented proper attention being given to the collection of subscriptions and the enlistment of new members. However, he hoped now that Mr. Garratt had undertaken to help them in the secretarial work the affairs of the Society would soon show an improvement. The Secretary had been able to do very little work since he went to the Warwick Exhibition last year; but his health was now mending, and he trusted that the Association would shortly have the advantage of Mr. Huckle's services again. He (the Chairman) was glad to say that all the goods had now gone off to the Chicago Exhibition, the honey having been packed in jars, of which he showed a sample. Nearly 900 of these jars had been dispatched, as well as diagrams and all the publications of the Association, reports for each of the past twelve years, certificates, medals, and copies of the *B. B. J.* It was satisfactory to know that the Royal British Commissioners, who expected exhibitors to pay all expenses in connexion with their exhibits, had made an exception in the case of the B.B.K.A., and on condition of a representative collection being prepared, had undertaken to defray the expenses connected with the British exhibit in the bee-department at Chicago, so that the only expense falling on the Association was that consequent on getting the honey together, awarding prizes, and packing the samples. He could not conclude without once more calling attention to the necessity of permanently increasing the income, or the work could not, with the increasing calls on the Association, be carried on efficiently as heretofore.

The Hon. and Rev. Henry Bligh seconded the resolution, and supported the Chairman's appeal for pecuniary aid. He thought the expenditure side of the balance-sheet showed that the funds had been most economically used.

The Rev. Dr. Bartrum asked why the dividend from invested funds was only 1*l.* 14*s.*, the capital being upwards of 120*l.*; to which the Chairman replied that 60*l.* of such sum was in the Post-office Savings Bank, the interest on which was added yearly to the principal, and not paid out by dividend warrant as in the case of the Consols investment.

The resolution was carried unanimously.

Mr. Meggy moved votes of thanks to the retiring officers and Committee. The Baroness had been of great value to the institution. Her name was one to conjure with, and he hoped they would long have the advantage of her aid in furthering the cause of bee-keeping throughout the kingdom. With regard to the Chairman, who was at the head of the bee-keeping profession, it was unnecessary for him to say anything in praise of Mr. Cowan's devotion to the cause, which was well known to all bee-keepers. Mr. Bligh, too, had done good work in behalf of the industry, and he believed deserved their

thanks. He hoped the rumours of Mr. Bligh's impending retirement were unfounded. The Treasurer, Trustees, Analyst, and other officers rendered useful service. He heartily concurred in the remarks of the Chairman respecting Mr. Huckle, for whom he felt the greatest sympathy.

This was seconded by Rev. F. T. Scott and carried unanimously.

The Rev. Dr. Bartrum moved a vote of thanks to the Council of the Royal Society for the Prevention of Cruelty to Animals for the gratuitous use of their Board-room for committee and other meetings. He said that the R. S. P. C. A. had nobly carried out their motto of kindness by extending it to the committee of the B. B. K. A. as well as the rest of the animal creation (laughter). It was necessary that they should have a place of meeting, and what they would have done without the assistance of the R. S. P. C. A. he could not conceive. That aid which was consistent and never failing at all times of the year was especially valuable now, when their resources were undergoing a severe strain. So also must a word of thanks be given to the editors of the *B. B. J.*, who had rendered excellent help to the Association.

Major Fair seconded the resolution, which was passed unanimously.

The Chairman proposed the election of the President, Vice-Presidents, Honorary Members, and Foreign Corresponding Members, Treasurer, Auditor, Analyst, Librarian, and Secretary for the year 1893, in accordance with Rules 5 and 9. He thought the President especially deserved thanks for her past services, and for kindly consenting to serve the Association another year in the same capacity. The Vice-Presidents he submitted for election were the Presidents and heads of county and affiliated Associations, and he would also like to add thereto the name of Sir James Whitehead. As honorary members he would like to propose five gentlemen. There was the Rev. L. L. Langstroth, by whose discovery and research the present movable-frame hive had been made practicable; also the Rev. Dr. Dzierzon, by whom modern bee-keeping had been completely revolutionised; also Pastor Schönfeld, who had made discoveries in regard to the anatomy of the bee, and was the first to diagnose foul brood; also Mr. F. R. Cheshire, who was one of their own countrymen, and had ably followed up Schönfeld's work, and added to the knowledge respecting foul brood; and, lastly, M. Ed. Bertrand, who had done much in making practical and modern bee-keeping a success. The Foreign Corresponding Members whose names he submitted were M. Gravenhorst and M. Dennler, who were constantly writing and giving information. Both these gentlemen had been present at meetings of the Association, and in 1879 had also received the medal of the Association. As regarded the Treasurer (Mr. Glennie), the Auditor (Mr. Kirchner), the Analyst (Mr. Otto Hehner) he felt sure all would be in favour of their re-election. The Analyst had had very little to do lately, but he hoped there would soon be occasion to further utilise his services, for there was some necessity of adding to the stock of knowledge regarding honey and its adulteration. The Librarian and Secretary (Mr. Huckle) was a man they could not do without. His illness had already been feelingly referred to, and he hoped soon to see Mr. Huckle back at his old post; meanwhile Mr. Garratt had kindly come to their aid, for which the Committee were very thankful.

Mr. Harris had much pleasure in seconding the motion. The names mentioned were those which all bee-keepers could honour. He thought it would be well to include, at the end of the resolution, a few words of sympathy with Mr. Huckle in his present misfortune, which would be cheering to the patient as well as a record of the meeting's appreciation of him.

With the Chairman's hearty assent the resolution was amended in accordance with Mr. Harris's suggestion, and carried unanimously.

Mr. Garratt read the list of Committee-men elected for the year 1893, as follows:—Mr. T. W. Cowan (Chairman), the Rev. E. Bartrum, D.D., the Rev. G. C. W. Bancks, Captain C. D. Campbell, Mr. W. B. Carr, the Rev. R. Errington, Major A. W. Fair, Mr. J. Garratt, Mr. W. H. Harris, Mr. H. Jonas, Mr. W. Lees McClure, Mr. J. H. Dew, Mr. W. J. Sheppard, and Mr. E. D. Till.

The further discussion on financial matters, and proceedings at the subsequent *conversazione*, will appear next week.

PERSONAL.

Sir,—Will you kindly grant me space in your columns to express my gratitude to the members for their kind expressions of sympathy with me in my long trial of ill health, as accorded at the Annual General Meeting of the Association, held on the 15th inst.? I also take this opportunity of gratefully acknowledging the many inquiries which have been made from time to time during my long illness.—John Huckle, *Secretary, Kings Langley, March 20th.*

IMPORTANT PAPER ON FOUL BROOD.

By J. J. Mackenzie, B.A., *Bacteriologist of the Prov. Board of Health, Ont.*

(*Continued from page* 103.)

The other question is whether the temperature to which wax is raised during foundation-making is sufficiently high to destroy the spores of foul brood? In order to decide this question there are several points to be noted. The first is the character of the heat. We know that moist heat will destroy bacteria and their spores much more quickly than dry heat, and Mr. Corneil, of Lindsay, has raised this point several times, claiming that the heat to which the bacteria are exposed in melted wax is not moist heat, but dry heat, consequently we must heat to a

high temperature, and for a long time, in order to destroy the spores. The point is undoubtedly well taken, and can only be settled by direct experiment. In order to determine the temperature at which the spores are destroyed in melted wax, I used a method which was first described by Koch. Sterilised silk threads were saturated with a beef-tea culture of *Bacillus alvei* in which there were large numbers of spores. These threads were then allowed to dry, and in the dry state were preserved. These dried threads were introduced into the melted wax, and allowed to remain in it for a definite time at a fixed temperature. At the end of that time the thread was introduced into melted agar or into beef tea, heated to the melting point of wax, and thoroughly shaken, so as to separate the wax as much as possible from the threads; then the culture medium was rapidly cooled and the tubes placed in the ordinary cultivating oven kept at 98° F. If I obtained a growth of bacilli, I concluded that the threads had not been sufficiently heated in the wax; if I did not, I concluded that they had been sufficiently heated. The following are my results:—

At 212° F.	(100° C.)	for	¼ hour,	growth.
,,	,,		½ ,,	,,
,,	,,		1 ,,	,,
,,	,,		1½ ,,	,,
,,	,,		2 ,,	,,
,,	,,		2½ ,,	no growth.
At 194° F.	(90° C.)	for	½ hour,	growth.
,,	,,		1 ,,	,,
,,	,,		2 ,,	,,
,,	,,		3 ,,	no growth.
,,	,,		4 ,,	,,

On the other hand, a temperature of 122° F. (50° C.) did not destroy the spores in twenty-four hours.

I have repeated these experiments several times with the same results, so that I would conclude that to destroy the foul brood in wax it is necessary to heat to a temperature of at least 194° F. for at least three hours. Now the question arises, Does this take place during the process of manufacture of comb foundation? In order to get as much data as possible on the subject, I wrote to Mr. Larrabee, of Michigan Agricultural College, as he had kindly offered me any assistance in his power. He applied to two prominent foundation-makers for the information. From their replies it is apparent that, for a short time at any rate, during the refining and purifying of the wax, it reaches a temperature quite at or near 212° F. During sheeting, however, it apparently does not reach a temperature much above the melting point, say 175° F. They both seemed to agree that steam heat for too long a time injures the quality of the wax.

In the *American Bee Journal*, 1891, p. 470, we find some statements on the subject in a reply by two prominent foundation-makers to an article by Mr. Corneil upon the dangers of infected comb foundation. One of them, Mr. Dadant, states that in refining it is heated for some time at 212° F., and is kept liquid for twenty-four hours. The other, Mr. M. H. Hunt, states that it is kept at the boiling point for six or seven hours. If these are the actual temperatures reached during foundation-making, I am inclined to think there is little danger from foul brood in that direction.

I thought it possible that the whole question could be settled by introducing a certain amount of some disinfectant, say Naphthol Beta, into the melted wax; but my results have not been satisfactory. Apparently even the introduction of one per cent. Naphthol Beta into wax did not hasten materially the destruction of the spores. I was able to demonstrate the presence of living spores in wax containing one per cent. Naphthol Beta and heated for two hours to 194° F.

From these facts, and taking into consideration also the physical fact of the settling of the bacilli to the bottom, I should think that, with reasonable care in the preparation of comb foundation, the dangers of infection from this source would be slight. But that the spores may germinate after being mixed with the wax, I think I have shown.

Why the spores of the *Bacillus alvei* are killed so quickly in the melted wax, I am not able to explain; but it may be due to the fact that the wax itself, when heated to such a temperature, has antiseptic value. That the spores resist other antiseptics as strongly as do the spores of anthrax, I have proved by testing.

Cheshire and others recommend a solution of two per cent. carbolic acid for disinfecting the hive after removing infected comb, but on actual experiment with the infected silk threads, I found that two per cent. carbolic acid did not kill the spores in six days. These results are similar to those obtained by Koch for the spores of anthrax, and show that two per cent. carbolic acid cannot be relied on to destroy the spores. However, the question of the value of antiseptics I will take up more in detail later on in this paper.

(To be continued.)

LOUGHBOROUGH AND DISTRICT BEE-KEEPERS' ASSOCIATION.

The Leicestershire County Council have been giving a series of lectures here, with the result that the bee-keepers were got together at the conclusion of the series. Mr. Arthur Harding introduced the question of forming an Association. The existing one, covering the whole of the county, was found to be of little practical use, more especially to beginners in the craft. Ultimately it was arranged that another meeting should be held, and this too was well attended. Mr. Charles Cashmore, an enthusiastic bee-keeper, was in the chair, and after full discussion, it was unanimously decide to

form an Association for the Borough of Loughborough and the residents in the county not more than five miles distant. Rules were drawn up and adopted. E. H. Warner, Esq., J.P., Nanpantan, has consented to be the president, whilst his Worship the Mayor (G. Adcock, Esq.) and all ex-Mayors have become vice-presidents. Fourteen members have joined at the first meeting, and others have since expressed a willingness to become members. I hope at some time in the near future to report our work to you, and trust then you will be able to say we have taken a step in the right direction.—A. HARDING, *Hon. Sec.*

TECHNICAL INSTRUCTION IN BEE-KEEPING.

The schoolroom at Morton, Gainsborough, (Lincs.), was well filled on Friday, the 24th ult., when Mr. F. J. Cribb delivered a lecture, under the auspices of the Lindsey County Council, on the modern system of bee-keeping. It was encouraging to the promoters of these and kindred lectures, in accordance with the provisions of the Technical Education Act, to note the large and interested attendance. The taste for bee and honey cultivation is evidently growing, and people are beginning to acquire a predilection for technical education of this description. Mr. Cribb had nothing of which to complain with regard to the number of his listeners, and he engaged their attention in the most interesting manner throughout the evening, assisted as he ably was by Mr. Pepper, who displayed an excellent series of lantern views photographed from life and micro-photo slides all specially taken for Technical Education lectures, which showed the manipulation of hives, the anatomy of the honey-bee, and the appliances used in connexion with the industry. Mr. County Councillor Chas. Thompson was present during the lecture, and expressed himself greatly gratified.—*Communicated.*

METEOROLOGICAL SUMMARY.

January, 1893.

TENBY. Lat. 51° 40′ N. Long. 4° 42′.

Barometer:—	
Mean height	30·082 inches.
Highest (20th)	30·584 ,,
Lowest (28th)	29·302 ,,
Temperature (shade):—	
Mean	39·2 degrees.
Highest (23rd)	52·0 ,,
Lowest (2nd)	20·0 ,,
Rainfall	2·397 inches.
Sunshine	69·5 hours.

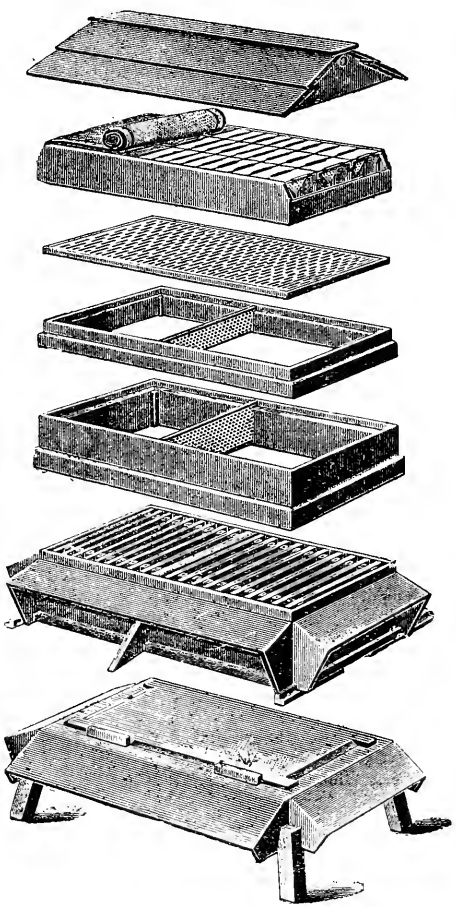
Bees have been flying freely during the month, and carrying in pollen—chiefly from the gorse.—JAS. E. GOWER.

[We regret that through inadvertence the publication of above report has been delayed. —EDS.]

"WELLS" HIVES.

No. 2.—BLOW'S "WELLS" HIVE.

The hive, as illustrated in the accompanying cut, consists of a body to which are affixed porches and entrance runners in the usual way. This body holds twenty frames, and is divided in the centre by a perforated wood dummy. There are four entrances—two in the front, quite close together but separated by a projecting



piece of wood affixed to the front porch—the other two entrances are one at each end. The floor-board is on legs, the lower body having double walls on both sides. Upper body in two parts, so that either shallow or standard frames may be worked as desired. This body also contains twenty standard bar-frames (or twenty shallow frames, whichever preferred), and is fitted with removable walls and perforated dum-

mies, and with lift for crate, so that tiering of crates can easily be done. Super of thirty-nine one-pound sections, with slotted metal divider, queen-excluding zinc adapter, and quilt.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1376.] The past fortnight has been good bee-weather; willows are in full bloom in sheltered positions, and the wild anemones are just putting forth the first blossoms in the woods, so that the supply of natural pollen is every day increasing. We began supplying the artificial substitute, viz., equal parts of Symington's pea-flour and wheat-flour, or equal parts of Brown and Polson's corn-flour and ordinary wheat-flour, and both are taken by the bees with avidity; in fact, two or three bees seemed on the alert for the artificial pollen, for while I was preparing the straw hives and shavings on which to sprinkle the flour, they began prospecting among the shavings, and immediately I sprinkled the flour, began collecting the same into their pollen baskets.

The Wells hive and system is still to the fore, and I would suggest to "T. I." (1361), *re* the lowering of floor-board two inches in front, that either a strip of wood or perforated zinc is fixed vertically in the floor-board, and fitting close up to the perforated division-board or dummy when the floor-board is up in its place, and when it is lowered this fixture on the floor-board is practically an extension of the dummy, and still divides the two colonies.

That the system is engrossing the minds of bee-keepers, the pages of both bee-papers, *B.B.J.* and *Record*, are witness, and I have no doubt appliance-makers who advertise the Wells hives get many queries on their working. I, myself, have received several lately on the subject, but my only source of information on the practical working of the Wells system has been the published correspondence in the *Journal*.

In answer to our friend in Kent (1355), my mishap was the result of carelessness to a great extent; the two colonies were two strong lots of driven bees, put into an ordinary hive with a perforated dummy, *à la* Wells, but I quite expect the point I neglected was in not dividing the entrance out to the extent of the alighting-board; the ten-inch entrance of hive was only divided to the outside of the box containing the brood combs. It was my intention to transfer the twin colonies into a hive better adapted to the system, but other work crowding in, the intention was postponed till the spring, which will never come to that twin colony! There is the usual number of "if's" in the case—"if" the colonies had united the other side of the division-board (where the largest quantity of food was stored), all would have been well; and "if" I had given that intended cake of candy, the combined colony would have pulled through safely.

If "E. B." (1365), or any other bee-keeper, has two weaker stocks than the others in the apiary, and wishes to bring them side by side, each hive can be moved forward, say one yard every day bees are flying, and of course to a converging point. Now, when the two hives are side by side, they can be transferred into the Wells hive at once, weather and temperature permitting. Smear the division-board (both sides) with honey, in which mix a few drops of peppermint. This cleaning-up will find both colonies something better to do than fighting, or threatening to do so, through holes which form a barrier to a pitched battle.

I was sorry to miss attending our Berks annual meeting; this is the first omission during the last decade. Glad to hear there was a fair attendance, and gladder still to know that our late indefatigable hon. secretary, Miss R. E. Carr Smith, will continue her fostering interest in our Association. I look forward to the increasing usefulness of the Association in the future. The continued grant of the County Council is evidence that we are doing a good, useful work in the county.

"T. J." (1375).—Respecting the entrances to the twin-colony hives, I don't think, from several years' experience, there can be any objection to the two entrances being in the front of the hive. I have had seven or eight twin hives in use nearly ten years with both entrances in front of hives, and have never had a case of fighting between the colonies, and it is with these hives I intend to run some three or four on the "Wells" system this coming season. All the alterations required will be the removal of the half-inch plain division-board, and the insertion of a "Wells" dummy and the piece of excluder zinc over the frames. I should not advise a feeding-stage, feeder, or large cake of candy common to both colonies; rather let the fraternisation come when the honey-flow is commencing, and then workers will not be disposed to fight. The fact that the bees will fill the holes in the dummy with propolis, and thus prevent the communistic design of the bee-keeper, is a proof that the "Wells" system is not in conformity with the natural instincts of the genus.

Lime-trees do not bloom for ten or twelve

years after planting. I have taken note of this from personal observation.

I notice our friends in Northants intend (by Report to hand) to have a show of British honey during the coming season somewhat on the lines of our Berks Association Show at Reading last September, only with this difference: the Northants Show will take the form of benevolence to the widow and family of a deceased bee-keeper, to whom the profits will be given. I think this will meet with a ready response if our friends in Northants gives us a reminder through *B. B. J.* and *Record* next July.

I notice some bee-keepers have been looking through their hives, and shortly some others will either be transferring their colonies to clean hives, or at least clearing out the *débris* of the past winter. To every one who contemplates doing this, I would say, don't be in too much haste, but if perforce circumstances require the job to be done early, do it quickly, not exposing the brood longer than absolutely necessary, so that the hive you change your colony into is perfectly clean, and with each transfer place two or three pieces of naphthaline among the combs.

Next month will be the feeding month of the year, and if foul brood is rife in your neighbourhood, or within a radius of three or four miles, i will be good policy to feed medicated syrup.

The persistence of the foul-brood pest is demonstrated very fully in the very excellent article running in *B. B. J.* in last week's issue; we certainly run some risk by the use of foundation. I trust science will devise some means of sterilising the germs of foul brood without destroying the properties of beeswax, which makes it so valuable to modern methods of bee-culture.

The report of Berks Bee-keepers' Association for 1892 is to hand. I intended to give a short "note" on same, but on perusing it, I find I must defer notice till next week, as the success and progress of the Association deserves more than a passing note.—W. Woodley, *World's End, Newbury.*

AMATEUR BEE-KEEPING.

[1377.] In my letter (1316, p. 45) I remark that the gathering of surplus in sections is by no means the surest method of getting the greatest amount of surplus in a given time.

That statement, bearing in mind what has been noted by yourselves and others who write for the guidance of amateurs, requires no words of mine to urge its general acceptance.

I wish now to draw attention to a super that is easily prepared and, when storing is carried on, quickly filled, whether used in connexion with the hive for which it was specially designed (and is here described) or for taking the place of sectional or shallow-frame supers. It may be that I shall once more be told that I am "fifty years behind the times;" if so, I would say that, looking at bee-keeping from a commercial or pecuniary point of view, the object of all study and teaching on the subject is how to get the greatest profit per stock; and I maintain, though I may be considered now a little off the track, that movable combs and the natural accompaniment, extractors, are not indispensable to the successful bee-keeper. In support of this statement I will state a fact. Two years ago one of the best-known manufacturers in England, who also owns one of the largest and most attractive apiaries, sold his extractor, and at the time told me that he had done with extractors, and that he should use foundation extensively, and cut up the combs when filled. This is exactly what Mr. C. N. Abbott years ago suggested might be done in order to get run honey with a minimum of trouble and expense, and thus save the labour and mess of extracting.

It is some years since I wrote in your columns on "Bee-keeping for Cottagers," but I have not, in one respect, altered my opinion; in fact, I am more than ever convinced that there are many bee-keepers who desire a system of bee-keeping more attractive than the skep system, which will give the maximum result with the minimum expenditure of time and money.

Why we should be expected to urge the great stride from the skep to the bar-frame hive, or that if a start is to be made it must be made with the bar-frame hive, I cannot imagine. I am afraid that some fear that if they advise anything simpler than the bar-frame hive they will be considered poor exponents of the art.

In this matter, as I have said before, "I have no axe to grind," and, personally, I would not have fixed brood combs at any price, though I shall continue to use the "Joo" fixed-comb supers in conjunction with sectional and shallow-frame supers. The hive which is named the "Joo" cottager consists of brood chamber, seven inches deep, two supers, each five inches, together with floor-board, lift, and roof. The ends of the bars rest in rabbets cut in the front and back walls, and are exactly similar for use in the brood chamber and supers, except in width. In the former the shoulder is the width of a metal end, and nine in number, while in the latter they are $1\frac{5}{16}$ inches wide, and seven fill the same space. The bars are provided with saw-cuts to receive foundation, but only sheets extending two-thirds the depth should be given.

A strong swarm would, if conditions were favourable, quickly fill the brood chamber and take to the super; but a smaller one would of necessity be slower in getting to work above. In order to force the bees into the super, I advise that a board one inch thick, made to fit inside the hive, but with an entrance cut in the front, be placed on the floor-board when the swarm is put into the hive. The thickness of the board may, of course, be varied; but it would be useless to use any such contrivance except with a good swarm.

As this letter is rather long, I will defer other remarks to a future issue, except to say that a $5\frac{1}{2}$-pound swarm put into the "Joo" cottager, standing in the next village, on June 23rd last,

gave 37 lbs. 4 ozs. net surplus, and had sufficient in the brood chamber to carry it through the winter.—C. N. White, *Somersham, Hunts.*

[A hive such as the one described may do very well for those who deliberately disapprove of modern methods of bee-keeping, and select such a one on principle; otherwise we cannot agree with our correspondent as to the desirability of amateurs starting bee-keeping by using hives with fixed combs and of a size entirely unconvertible into a frame hive of modern type. To do this is to encumber the bee-keeper with hives and appliances which he would only regard as so much worse than useless lumber when he had acquired sufficient knowledge to enable him to appreciate the advantages of the "better way." Why not advise a box hive capable of being adopted to modern methods if needed?—Eds.]

CRITICISING THE CRITICS.

The Wells System.

[1378.] Perusing from time to time our *Journal*, as we bee-keepers do, it would astonish persons not interested in that seemingly insignificant and yet wonderful creature, the bee, to know what an amount of criticism it has caused, I suppose from time immemorial. We look into the word criticism. Is it the "art of judging," or, if we use it personally, "one why finds fault?" Sometimes we are apt to think the latter is the one more oftentimes meant. We all know if it was not for competition and criticism we must assuredly in time become stagnant, and yet I venture to say that very often things which have been practically tested and plainly given out are wrongly conveyed to the mind and wrongly read.

I have not the pleasure of knowing the gentleman who has caused the last movement for the benefit of bee-keepers, but he seems to have had rivals, and now critics, like your correspondent (1354, p. 87), who says, "I do not know wherein the 'Wells system' differs from an ordinary twin hive with a division of perforated zinc, nor do I know whether Mr. Wells recommends his new system to young beginners as being more profitable."

Now, has our friend, Mr. Ward, ever felt a piece of zinc that has been out of doors on a frosty night, and also a piece of wood? Second, Mr. Wells, "if I am not mistaken," has neither recommended his system to the old or young, and from what I have followed in the past the B.B.K.A. made it recommendable. Then, a little further, your correspondent goes on to say, "Then, as regards swarming, there was always the double chance," &c. Now, if I read correctly, Mr. Wells did not experience that "double chance." Would not practical experience be of more service? Last year I tried and failed with this system. Two swarms issuing the same day, and that a Sunday, I hived them in a hurry, and could not have confined each lot exclusively. The bees must have passed somewhere through the division, for on an examination I found the queen of the weakest cluster cast out dead on the alighting-board; but, nevertheless, I intend trying again this year.—Benevolous, *Ironbridge, March 8th.*

EARLY DRONES.

[1379.] I have waited fourteen days for the strange tale told in your last issue of the *B.J.* before writing this letter to you. I was in my garden on the morning of the 5th of March putting pea-flour in the cups of the crocuses when I was startled by what I thought to be the hum of a drone on the wing. I at once got in position to command a view of the entrance of six hives at once, and I then saw drones going in and out of a hive that I took from a neighbour last autumn. I made an examination of the hive the next day, and saw several drones and brood and eggs in abundance on seven frames, and the combs crammed with bees, and about two inches of sealed stores; pollen was being carried in at a rapid rate. My seven stocks have come through the winter quite strong. I am feeding with soft candy mixed with pea-flour. On the 13th I went to take a crate of sections off from a neighbour's hive that had been on all the winter, and he, too, had drones flying and plenty of bees; I could not see whether there was brood or not, as the combs were built all together in a mass. Can you give me any information as to the cause of drones appearing so early?—S. Newnham, *Hurstmonceau, March 19th.*

ANOTHER EARLY SWARM (?).

[1380.] A correspondent sends the following:—A swarm of bees took place at the premises of Mr. Thomas Smith, wheelwright, Great Burstead (near Billericay, Essex), on the 8th inst.—"*Essex Herald*," *March 14th*, 1893.

A GARDENER'S BEE-KEEPING.

[1381.] Having read with interest the *Bee Journal* almost from its first appearance, and learnt much from "Useful Hints" and "Notes by the Way," among others, I thought a word or two of my experiences might interest some. I have kept bees thirty-five years, so I ought to know a few of their tricks. My apiary now consists of eighteen stocks in frame hives, and three in the old square boxes, and all of them have wintered well. I seldom have need to feed, as I like to leave stores enough (15 to 20 pounds) to carry them through the winter. I think the less they are disturbed the better. If I do feed, however, I never boil the syrup. I think that opening hives too often is one of the causes of disease. The brood gets "chilled," and, being left while decaying, helps at least to develop foul brood. Otherwise, how is it that

the cottager who uses skeps is so much more free from this disease? We are free from its dire effects here, thank goodness! and I attend to six apiaries besides my own. In all these only two lots have perished, and these just for want of being overlooked last autumn, which serves me right. "Man of Kent" (1335, p. 87) is quite my way of thinking. I never lost any stocks well supplied with stores, and I never cut winter passages.

About twin hives. I had one many years ago; both got access to the roof, and filled it, working well together. Excluder was not used in that case. Now, brothers in the craft, don't you think we are drifting away from the help the cottager wants, when so much as 25*s.* is asked for a hive? It is entirely out of their reach. I have been waiting to see a cheap hive for the cottager, but it seems a long way off, and he still sticks to his favourite skep. I make most of my own hives, but, as a rule, it is hard work to get cottagers to make hives or try their hand at a little carpentry. To young hands I say, be very cautious about twin hives. Single ten or twelve bars are the sort I like. I got sixty pounds last year from some of mine, and you can handle single hives much better. Bees on the wing on 19th ult., and brood in all stages in the few I had a glance at. On March 2nd young bees were flying from several. Trusting we shall have a good honey-flow this coming season,—F. Mower (*Gardener*), *Winchester, March 3rd.*

Queries and Replies.

[736.] *Mishaps with the Wells System.*—I united two stocks in a W.B.C. ten-frame hive, with perforated wood dummy between, on the 19th ult. On the 1st inst., I gave them another ten-frame brood body containing stores. Unfortunately the perforated dummy allowed the bees to get at each other. However, I discovered it, and rectified the error; but both stocks were much reduced. On the 2nd (a lovely day) I had a look at them, and found extensive robbing going on. The robbers did not care a bit about carbolic solution, and even carbolic powder did not drive them altogether away; so I closed entrances with perforated zinc. This morning I found the enclosed bee, with many others, slain just inside the entrance. Is it a queen? There are only two seams of bees left in one side and one in the other. Would it be advisable to unite them in one side and introduce another stock on the other? I have received a Wells hives with the holes in the dummy large enough (·18) to pass a dead worker through. Will it be safe to use it between two stocks?—H. C. Hanker, *Longparish.*

Reply.—The bee sent is not a queen at all, only a worker-bee. We fear our correspondent is altogether too inexperienced to safely work colonies on the double-queen plan without help. Joining two stocks in one hive without first making sure that the perforated division-board would effectually keep the bees apart was a fatal error. We should strongly advise calling in help or consulting with some bee-keeper of experience before proceeding further, because the fact of the two lots of bees at present in the hive being engaged killing each other renders the prospect of the safe introduction of a third stock more than doubtful in the hands of a beginner.

[737.] *Bees in Woods.*—1. Would my bees do well if I put them in the woods? The roads are about fifteen to twenty feet broad, and I could place them at the sides. My gardener objects to them in the garden, the stock object to them in the pasture, and the labourers and horses object to them in the arable fields. I think the bees have wintered very well in this district. Mine are very strong, and I see that the cottagers' skeps also seem strong and busy. 2. Do you consider a thickly wooded district, with hops and pasture, not much arable, a good country for bees? — R. P. Hobbs, *Beckley, Sussex.*

Reply.—1. Bees will do very well in woods, and a location as described should suit them admirably. 2. Pasture land is better than arable for bees, and Sussex is one of the best counties in England for honey production.

[738.] *Bees and Earwigs.*—1. Can you tell me the cause of something eating bees' heads off? Do you think it is earwigs, as several are to be found in hive? 2. Will the bees be a nuisance to the public if my hives are placed thirty feet from a public footpath, parted by a wall four feet high?—Bee-keeper, *Grantham, Durham.*

Reply.—1. Earwigs *might* eat the heads off dead bees, not off live ones. 2. With ordinarily careful management, bees should cause no trouble of the kind indicated.

[739.] *Perforated Zinc Separators for Sections.*—Do you consider perforated zinc to be a good material to use as separators for sections? Also what sized holes should be in same? I think a correspondent wrote in the *Journal* of last year that he had used them with good results, but cannot find it in the correspondence.—A Subscriber, *Merton.*

Reply.—The correspondent referred to is Mr. J. W. Sheppard, of Chingford, who has used perforated zinc as stated with excellent results. The kind used for meat safes is right-sized holes.

[740.] *Drone-breeding Queen in March.*—1. I want your advice as to what to do in the following case:—Last August I removed the queen from a very strong hive—as her progeny were extremely vicious—intending to introdnce a good black queen. I did not, however, introduce the new queen until a fortnight later, and in the meantime I think a young queen,

raised by the bees themselves, had hatched out. At all events the new queen must have been killed, as on opening the hive to-day, I found a number of drones and drone brood. The stock is still fairly strong, as it covers six frames. When I packed it up for winter I saw a small queen. 1. Will this queen (provided she is still in the hive) become fertilised in time to save the stock, or ought I to unite it to another? 2. If, on the other hand, it is a fertile worker that is laying the eggs, how shall I be able to find her before I unite, as I do not want one of my good queens killed.—ERNEST WALKER, *Erith*.

REPLY.—1. No. She will never be other than a drone-breeder. If you have a stock close to, we should unite the bees to it after removing the sterile queen. 2. A fertile worker cannot be detected, but why suppose there is one present when you "saw a small queen" in the autumn?

[741.] *Transferring Bees to Double-Queened Hives.*—1. I intend working one hive this summer on the "Wells" system. When would be the best time to put the two colonies, which are now in separate hives, into the "Wells" hive? 2. Are nine standard frames on each side of the perforated dummy sufficient? Bees in this locality have wintered well, and seem in good condition.—H. F. K., *Ballyfrenis, Donaghadee, Ireland, March 14th*, 1893.

REPLY.—1. We should say the first week in April is about the best time. 2. Ten standard frames on each side of the dummy will be better than nine.

Echoes from the Hives.

Beemount, Stoke Prior, March 17th.—Oh, what a change in the weather! Last week the thermometer registered 62° in the shade, and to-day it has fallen to 31°, a strong wind blowing from the N.N.W., and feathery flakes filling the air. Notwithstanding the inclement weather, my bees are busily employed visiting the water-troughs; this sight is very cheering, for it tells of increasing population within the hives. Pear-trees are assuming a very white appearance, owing to the buds bursting so early this year. Gooseberry and currant bushes are in full leaf. Apricots have been in bloom for two or three weeks, and the bees were very busy extracting the nectar. I weighed my skeps last week, and was not very agreeably surprised to find them very light. Doubtless the mild and early spring accounts for it. The bees were carrying in pollen this year quite three weeks earlier than in 1892. I find that those skeps are the lightest that have had most pollen carried in. I intend commencing feeding the first day of spring, viz., March 20th, by my method described in vol. xx. (1093, p. 286).—PERCY LEIGH.

Wollaston, near Wellingborough, March 18th.—My stocks of bees (three) were fairly strong last spring (1892), and increased to six. From them I took 150 pounds of honey of first-class quality. One stock was a complete nuisance, by constantly swarming (I may mention it was a Carniolan). Fed up early and put them in winter quarters in good time; found damp came in through the roofs of three, but a coat of roofing-felt put that all right. Took advantage of the first fine days of January, and gave thirty-four pounds candy, and set up bee-fountains. Bees commenced taking in water at once. I saw my first drones on February 28th. Bees are now very busy on apricots, peaches, primroses, &c.—SPREAD EAGLE.

TRADE CATALOGUES RECEIVED.

J. H. HOWARD (*Holme, near Peterborough*). THOMAS B. BLOW (*Welwyn, Herts*).—Both the above well-known manufacturers issue entirely new catalogues for 1893, consisting, in each case, of fifty-two pages, fully illustrated. All the recent improvements in bee-appliances are embodied, including full descriptions and instructions for working the form of "Wells" hive which each maker considers best adapted to the system. Mr. Howard gives illustrations of several useful novelties for the coming season, including the "Howard" combined self-hiver and super-clearer, from which good results are expected in the way of filling a known want. We should also add that Mr. Blow's catalogue has an illustration showing his extensive new hive factory and apiary at Welwyn, and regarding which we hope to give some particulars in a future issue.

W. P. MEADOWS (*Syston, near Leicester*).—Mr. Meadows reissues his excellent catalogue of last year, with the addition of an eight-page inset, containing fine illustrations of all the novelties he has introduced since the early part of 1892.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. HEAD (Winkfield).—*Using Medicated Food.*—All food given to bees should be medicated, and where foul brood is known to prevail in a district it is especially necessary. We cannot positively affirm that the decomposing "remains of a dead cat" caused the hive to become foul-broody, though such a condition of things would be enough to cause disease anywhere, one would think. The moral to be gathered from your case is case is, Don't have cupboards below hives in which cats may be accidentally imprisoned, to die and decay unseen.

A. P. (South Woodford).—*Transferring Bees and Combs from Skeps to Frame Hives.*—The method of transferring recommended in the *Guide-book* is intended for bee-keepers possessing sufficient aptitude to enable them to perform the operation fairly well, and who would use sound judgment in deciding if the combs in skeps are worth transferring at all. So many beginners, however, have failed in the above essentials that, as a general rule, it is safer and, perhaps, better for them to let the bees transfer themselves as stated.—Comb foundation is now so cheap and so easily fixed in frames in full sheets that straight new combs are well worth the extra cost, in preference to patched-up ones cut out of old skeps.

Lincolnshire Rector.—*Adding Brood to Strengthen Stocks.*—Combs of brood may be safely given to any stocks which have bees enough to fully cover them in the month of April. The risk lies in giving brood to stocks which are sparsely supplied with bees, because a sudden lowering of temperature may cause "chilling" as the cluster contracts. On the other hand, there should be no difficulty in building up a fairly good stock with a prolific queen into full strength for the beginning of the honey-flow by ordinary slow stimulative feeding, without such risks as occur through sudden "cold snaps."

F. Howell (Poole, Dorset).—*Queenless Stocks.*—If the stock has been long queenless, it is doubtful whether the bees are worth re-queening. We should certainly prefer to unite them to the nearest stock. The feeder must not be removed in the daytime. Feeding should be continuous, not intermittent. A hive should contain not less than ten standard frames in brood chamber, but twenty frames are too many. For choice, we should prefer nine to twenty standard frames for brood nest.

J. E. (Llanengan, North Wales).—*Bees Fraternising.*—It will probably be found that only a few scores of the Italians have joined the black bees in the skep. Certainly the queen of the latter cannot possibly have produced the Italian bees if the particulars given are quite correct. It is not uncommon for bees to fraternise to a limited extent, and this is, we fancy, all that has happened in your case.

. Jordan.—*Queen Excluders.*—If you use the proper kind of excluder zinc, such as has been illustrated in our advertisement pages, no queen will pass through.

J. W. Deurische (Dungarvan).—*Dr. Tinker's Book.*—This can only be had from Dr. Tinker, New Philadelphia, Ohio, U.S.A.

*** *We are again compelled to hold over several Letters, Queries, &c., till next week.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEE SEEDS.—Immense Packet of suitable mixed sorts, 20 varieties, for Bees (by a Specialist). Post free, 1s. Address Willie, 11 Highfield Road, Coventry.

BEES AND QUEENS.—Choice Ligurian, Carniolan, and English Stocks, Swarms, and Queens. Prices on application. Address C. T. Overton, Crawley, Sussex. 4

CHRISTMAS Roses, 3, 1s.; Japanese Anemones, 12, 1s. 6d.; Mrs. Sinkin's Pinks, 12, 2s.; Herbaceous Phloxes, assorted; Pyrethrums, grand colours, 12, 1s. 3d. Iceland Poppies, 24, 1s. 3d. Iceland, Shirley, Mikado, Swan, Bride, Mephisto, Danebrog, Marselli, Poppy Seed, 2d. packet, 8, 1s. Other Choice Flower Seeds, 12 packets, 1s. Address Vicar, Eggington, Leighton Buzzard. 2

FOR SALE.—7 Strong Stocks in Frame Hives; also 3 Frame Hives, with Supers and Sections complete. Address Greaves, Oxford House, Horsforth, Leeds.

BEE SEEDS recommended by Bee-keepers, guaranteed best sorts, 13 large Packets, 1s., post free. Address J. Bennett, Bee-keeper, Seedsman, and Florist, 178 Spon Street, Coventry.

ELEVEN Stocks in splendid condition, in good Bar-frame Hives, 6 extra Hives, Extractor, Ripener, and all requisites, to be Sold owing to removal. Will sell portion Address Moss, Danby House, Ripon.

FOR SALE.—Two Stocks of Bees in W.B.C. Body-boxes; no Hives. Breeding. Price 17s. 6d. each. Address F. Kent, Dewlish, Dorchester, Dorset.

ENGLISH, Carniolan, Italian Bees for Sale, in Bar-frame Hives. Apply to Thos. Hill, Scotlands, Cannock Road, near Wolverhampton.

EXPERT WANTED.—W. P. Meadows, Syston, near Leicester, has a Vacancy for a Young Man for Expert Work, and to make himself generally useful.

STRONG Healthy Swarms of English Bees, ready first week in May. Foul brood unknown in my Apiary. Expert declares county free. Orders booked now, executed in rotation. Address Edward Gibbins, Neath, Glamorganshire. 6

FOR Immediate Disposal.—One Strong Bar-frame Hive, full of Combs, with Shallow Box and Frames. One ditto (Blow's), two Body Boxes, Frames, Crates, Sections; nearly new. One ditto (Meadows), two Body and one Shallow Boxes, with Frames, not been used, Feeder and Smoker, nearly new. What offers? Address H. T. Riddiough, Lothersdale, Keighley.

WEBSTER'S Book of Bee-keeping, post free, 1s.; cloth, 1s. 6d. W. B. Webster, Binfield, Berks. "One of the best foreign works."—*American Apiculturist.* "The matter is evidently the result of long personal observation, and is thoroughly reliable."—*Bee-keepers' Record.* "Have much pleasure in recommending the manual to our readers."—*British Bee Journal.*

J. TREBBLE,

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SMOKERS, best yet made, and many other New Appliances. I have also a First-class lot of Metal Girders for Sections. Crates for Sale cheap.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 562. Vol. XXI. N.S. 170.] MARCH 30, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

Weather. — "March : a seasonable month ; temperature low generally at beginning, but high at close." So said the "Chart" referred to in our issue of February 23rd last, and the weather of the past month has been closely according to "forecast." Cold nights have been pretty frequent, but the many sunny days of late have been quite June-like in their warmth ; indeed, so rapid has vegetation pushed forward during the last week or so that bees in Kent are busily at work on gooseberry-bloom, which is very abundant in our neighbourhood as we write. It will be little short of a revelation to our northern friends to read that Mr. Wells (*the* Mr. Wells) related at the *conversazione* of the B.B.K.A. how he had been obliged to give surplus chambers to some of his stocks so long ago as the 14th inst., so strong in bees were they getting at that date. If he goes on at that rate, the ten double-queened colonies he now has should "score" again this season.

Present Bee-Prospects.—Judging from reports from the north, we are certainly having the best of it southward. Bees here have been working busily nearly every day for some time past, and natural pollen seems abundant, judging by the quantity carried in. Our fear is lest a "check" should occur later on, and a long spell of cold take the place of present warmth. Forward stocks should in such a contingency be carefully guarded from possible "chill" to the now rapidly increasing quantity of tender larvæ in brood nests. Doorways may require narrowing to very small dimensions in the event of their being exposed to piercing cold winds. Wraps also should be added to where there is any scarcity of warm coverings. Feeding, too, if required, must not be neglected. In a word, bee-keepers at such times ought to display a little of the spirit which animates the Wallasey cottagers, who grow the famed early potatoes produced in that corner of Cheshire. These men, so the story goes, will get up in the night and cover the tender young leaves of the just-appearing potato-plants with the warm blankets from their beds, should they wake up and see signs of a sudden and unexpected "frost" before morning. We don't expect that bee-men will go that length ; but those who have already heard the welcome "hum" of progress coming from the doorway of a hive at the close of a good bee-day, will neglect none of the precautions mentioned if they are wise.

Double-Queened Hives.—It will have been observed that a correspondent (1354, p. 87) takes a strong line against "twin hives"—in which he includes those worked on double-queen plan—his contention being that all double hives are "formidable affairs to manage." Our correspondent, however, overlooks the fact that we have the evidence of Mr. Wells himself, as given at the *conversazione* of the B. B. K. A. on the 15th inst., that so far from encountering any difficulty in this way, he is more favourably impressed than ever with the advantages of his system. His ten stocks at this date are, he says, all double-queened, and in such forward condition as to compel him, in one case, to give surplus chambers in order to accommodate the crowd of bees in the hive. Our correspondent's warning to beginners "to be careful how they plunge" is well-timed—indeed, we have ourselves already advised against too much impetuosity on the part of novices when handling "Wells" hives ; but we see no cause for discouraging any, whether beginners or otherwise, who

may desire to make a trial of the system. The adage, "Once bitten, twice shy," is, no doubt, very true, and as our correspondent failed to do any good with a "twin hive," his objection to such so far holds good. In fact, it was at the outset admitted that twin hives had been tried and had failed, and it remained for Mr. Wells to bring forward a plan by which, not "twin," but double-queened hives have been made an unequivocal success.

That caution is required on the part of beginners is very true, and that we have realised the need for it is shown in some remarks we felt it to be our duty to pen some days ago in the pages of our monthly, the *Record*. We there advised beginners to start by fixing up the double-brood chambers so as to ensure the complete separation of each from the other, and to leave severely alone any of the movable parts which would allow the slightest risk of the queens or even the workers meeting until such time as the latter could join forces in the surplus chamber.

We observe that our correspondent this week again refers to the subject (p. 126), and as he writes with the authority of an "old hand," his views are entitled to every consideration. But we ask, Is it desirable that progressive or "wide-awake" bee-keepers should stand still and look passively on while Mr. Wells is securing nearly double the amount of honey the best of us can harvest? In short, we make bold—if Mr. Wells will pardon us for not asking his permission—to invite our correspondent to visit Aylesford in June next, and if he does not see something to induce him to change his views with regard to the double-queen system we shall be very much surprised indeed.

BRITISH BEE-KEEPERS' ASSOCIATION.

Annual Meeting.

(*Continued from page* 112.)

Mr. Jonas, chairman of the Finance Committee, called attention to the subject of finance, with a view to some better means being devised of increasing the annual income of the Association. The income from subscriptions and donations amounted only to 139*l.* as against 157*l.* two years ago, and the total receipts had shown such a diminution that the Association had not been able to meet ordinary expenditure with its usual regularity. He thought no complaint could be made against the management of the expenditure, which had been governed by the strictest economy. The expenses last year had been less than in either of the two preceding years; still, it was impossible to hope for much relief in that direction. The item of 19*l.* for medals—a necessary outlay—swallowed up nearly one-fourth of the annual income from subscriptions. Besides, they must look forward to an increase of expenditure instead of a decrease. In considering the causes of this deterioration it was obvious that the circumstance referred to by the Chairman of the transference of subscriptions from the parent to the County Associations had a serious influence on the welfare of the central body. He could remember when the income was considerably over 100*l.* from subscriptions alone, as against 85*l.* now. If the lost income went into the coffers of the County Associations, that was not to be seriously deplored, provided the County Associations helped to support the Parent Society as they ought to do. Then, some year or two ago the subscription qualification for Committeemen was lowered to 5*s.*, the policy of which he was inclined to doubt, because it had the effect of causing some members, who formerly subscribed 1*l.* 1*s.* or more, to reduce their contributions. As regards liabilities, several accounts had to be paid, including printing, cost of medals referred to, balance on account of shows, &c. These expenses had strained their resources, and at the present time the Association was 100*l.* poorer than it was three years ago. Fortunately, there was 120*l.* invested, which sum he would like to see augmented, and that was always a guarantee that all debtors would be satisfied. The question was, How could the income be increased? Mr. Jonas, after enumerating several suggestions which had been made—the policy of which he rather doubted—for increasing the funds, expressed himself in favour of the Committee, along with such other members as could do so, doubling their subscriptions for a year or two, or until such time as the finances were once more placed in a better position. He concluded by inviting further suggestions from those present.

The Rev. Dr. Bartrum also invited suggestions. Some years ago he remembered that Lord Derby had spontaneously given 5*l.* to the Association. Possibly if the present state of the Association's finances was made known to his Lordship and others on the roll of patrons, further assistance would be forthcoming. Perhaps the London City Companies might be induced to help. The Clothworkers' Company devoted large sums to technical education, and he thought the Fruiterers' Company would be likely to give some support.

Mr. Till was opposed to any increase in the monetary qualification of annual members, which he believed would not bring about the desired result. He thought great good might be done by an appeal through the press, stating what had been done by the B. B. K. A., the condition of its funds, and also pointing out how enormously the industry of bee-keeping could be

extended. It appeared to him that among the reasons why the income was reducing they might include bad trade, diminishing tithes (by which the income of clergymen was reduced), and the transference of subscriptions from the central body to counties as fast as local Associations were formed. He considered that under the circumstances, and taking into account the assistance they derived from the B.B.K.A., the County Associations ought to increase their subscriptions. After some further remarks Mr. Till concluded by moving: "That the affiliated Associations be requested to contribute more liberally to the funds of the British Bee-keepers' Association." And he thought that any application addressed to the Counties should be accompanied by carefully compiled suggestions as to how they might increase the ranks of bee-keepers by parish organizations, &c., and the production of honey.

The Rev. G. W. Bancks seconded the motion, but recommended that a sliding scale be adopted, as the financial position of County Associations differed.

Referring to the amount of the affiliation fee first mentioned by Mr. Till, the Chairman, Mr. Carr, and Mr. Baldwin thought the sum mentioned too high.

Mr. Meggy looked upon the B.B.K.A. as he did on the pelican who robbed its own breast for the sake of its offspring; but at the same time he feared it was useless to expect much help from the affiliated societies, most of which were struggling against adversity like the parent Association. He thought the general public should be appealed to. The hint concerning the City Companies was a valuable one. He advocated the sending out of a carefully drawn-up appeal (written, not printed) which should set forth the benefits of bee-keeping as an industry to agriculturists and cottagers, and also the services rendered to the cause by the B.B.K.A. and the languishing state of its funds, not failing to mention the action of the Committee in regard to the Chicago Exhibition, such MS. appeals to be sent to a list of selected persons, which should include the Vice-Presidents and City Companies.

Mr. Jonas disclaimed the notion of interfering with the pecuniary qualification of membership, but only intended to suggest the doubling of subscriptions as optional on the part of members.

The Chairman thought several of the suggestions made were good ones, and that the debate that afternoon would have a good effect. At the same time he felt it would be best to leave the details which must be worked out in accordance with those suggestions to the Committee of the Association, who would consider them during the year in consonance with the views expressed at that meeting.

A further discussion ensued between Mr. Till, Mr. Carr, Mr. Baldwin, and the Chairman, respecting the stirring up of public interest in bee-keeping, and the establishment of Associations in distant counties like Devonshire and Cornwall, the difficulties of conducting any sustained movement in those districts from headquarters being pointed out by the Chairman and Mr. Carr. Mr. Till recommended the ventilation of the matter in the press, and Mr. Baldwin appealed to the past history of the B. B. K. A., which showed that the parent body had been instrumental in starting many County Associations. The Chairman explained that such work was done by the late Mr. Peel and other gentlemen, who were able and willing to spend their own time and money for the purpose of organizing and forming local auxiliaries.

Ultimately Mr. Till's resolution was passed unanimously in the following form: "That the affiliated Associations be requested to contribute more liberally to the funds of the British Bee-keeper's Association, and that the Committee of the B. B. K. A. be requested to formulate a scheme for the purpose of increasing the income of the Association."

The Baroness Burdett Coutts arrived at the close of the meeting and apologised to the members for her absence, having mistaken the day until it was too late. She thanked the members for her re-election and approved of what had been done, and promised to do her best to advance the interests of the Association during the coming year.

A Committee meeting was held after the annual meeting, and owing to the lateness of the hour, the appointment of sub-committees was deferred to next meeting, Mr. Cowan being empowered to attend to any business that might arise in the meantime.

The proceedings of the annual meeting then terminated.

(*Report of Conversazione next week.*)

We regret that owing to an inadvertence the name of the Hon. and Rev. Henry Bligh was omitted from the Committee elected for 1893.

IMPORTANT PAPER ON FOUL BROOD.

By J. J. Mackenzie, B.A., *Bacteriologist of the Prov. Board of Health, Ont.*

(*Continued from page* 113.)

I would like to say a word or two now on the methods of treating the disease. There are practically two methods. First, the starvation method; and, second, the method by medicated syrup. Mr. McEvoy's method of treatment seems to me practically a modification of the starvation method. The first method is widely used both here and in the United States, whilst in England and in Europe generally the second method is adhered to.

Considering the vitality of the spores of foul brood, it would seem at first sight useless to try any process which did not recognise at its foundation the destruction of the germ. I find, however, that many prominent bee-keepers who have had practical experience with the method of starvation or Mr. McEvoy's method accept it

as successful. I have not had an opportunity to examine colonies which have been cured in this manner, and so cannot say that the bacilli have disappeared. I hope next summer to test this question more fully. We may, however, examine into the rationale of the method. In conversation with Mr. Corneil, of Liudsay, he made a suggestion which may be quite familiar to you all, but which seems to me the only explanation. That suggestion was that either starvation or comb-building carried the infected nurses past the period at which they act as nurses, and gave them a chance to rid their intestines of the germ. If this is combined with a removal to absolutely clean hives with new foundation it may succeed; but I must say that absolute cleanliness in this respect must be insisted upon.

As I said above, I have not had an opportunity of investigating the results of these methods practically, and so cannot speak with certainty.

The fact of the presence of the bacilli in the workers and in the queen bears to a certain extent upon this question. Cheshire and others make the statement that the bacilli are found in the intestine of the workers and in the ovary of the queens. My own experience confirms this. I have found them repeatedly in the workers, and in five queens from infected hives I succeeded in obtaining the bacillus from the ovaries of three. That they are not always present in the ovaries of the queens from diseased colonies is certain; their presence there is apparently accidental. For instance, in the case of one of last year's queens, in a hive rather badly diseased, I was unable to find the bacillus, whilst in a six weeks' queen from a hive in which there were only a few diseased cells, I succeeded in finding it. Cheshire's statement that he found a bacillus in an egg of an infected queen seems to me to require confirmation. I have not been able to find the eggs infected myself, but it is a question which would require very long and careful investigation before one could be able to deny or confirm such a statement.

In the second method of treatment by medication I do not think that an absolute destruction of the spores takes place any more than in the starvation method. As I have shown above, two per cent. carbolic acid was not sufficiently strong to destroy the spores, consequently it is not likely that 0·2 per cent. (one pint in 500) would be strong enough. I tried 0·2 per cent., but found it quite unsuccessful. Its action, then, must have another explanation. To test this I made up a sterilised beef broth containing one per 500 of carbolic acid, and in it placed my infected silk threads. I found that there was no indication of growth. These threads were then taken out and placed in ordinary sterilised beef broth, and I obtained a luxuriant growth, *i.e.*, the 0·2 per cent. carbolic acid in the culture fluid, although it did not destroy the spores, prevented their germination. That, then, is the explanation of the value of carbolated syrup in the treatment of foul brood, it prevents the germination of the spores. The bee journals contain numerous examples of cases where carbolated syrup produced an improvement, but as soon as it was stopped there was a relapse. It is evident that here, again, as in the starvation process, there must be combined an extremely thorough cleaning up, so that the best possible results may be obtained from the treatment. Medicated syrup does not destroy the spores, it simply prevents their development, and gives the bees a chance to rid themselves of the infection, and in that respect I certainly think resembles the starvation process. Its advantage over that is that it can be carried on for a longer time.

In the course of these experiments I tried another substance which has been much used since Lortet's work on the subject, viz., Naphthol Beta. I do not think myself, from recent work on this substance, that Naphthol Beta should be ranked very high as an antiseptic, mainly on account of its insolubility in water. I found, however, that a beef broth containing 1 per 1000 Naphthol Beta would not allow spores of *Bacillus alvei* to germinate, and consequently had an equal value with 1 per 500 of carbolic acid. It has an advantage over carbolic acid on account of the disagreeable taste of the latter, and I think would be more acceptable to the bees. Salicylic acid in syrup has apparently the same effect, and I would not recommend the addition of borax, as it has been shown that borax lowers considerably the antiseptic value of salicylic acid.

I tested also formic acid in the same way, but my results so far have not been satisfactory, owing to the uncertain strength of my sample of formic acid. I prefer to reserve a report upon it and other substances which I wish to try until later.

Mercuric chloride I have not tested, as I do not think it wise to use it around the hive. The idea of using a 1 per 1000 solution to spray the diseased combs, as suggested sometimes, is, I think, absurd, and would be a rather serious operation for any living brood.

(To be continued.)

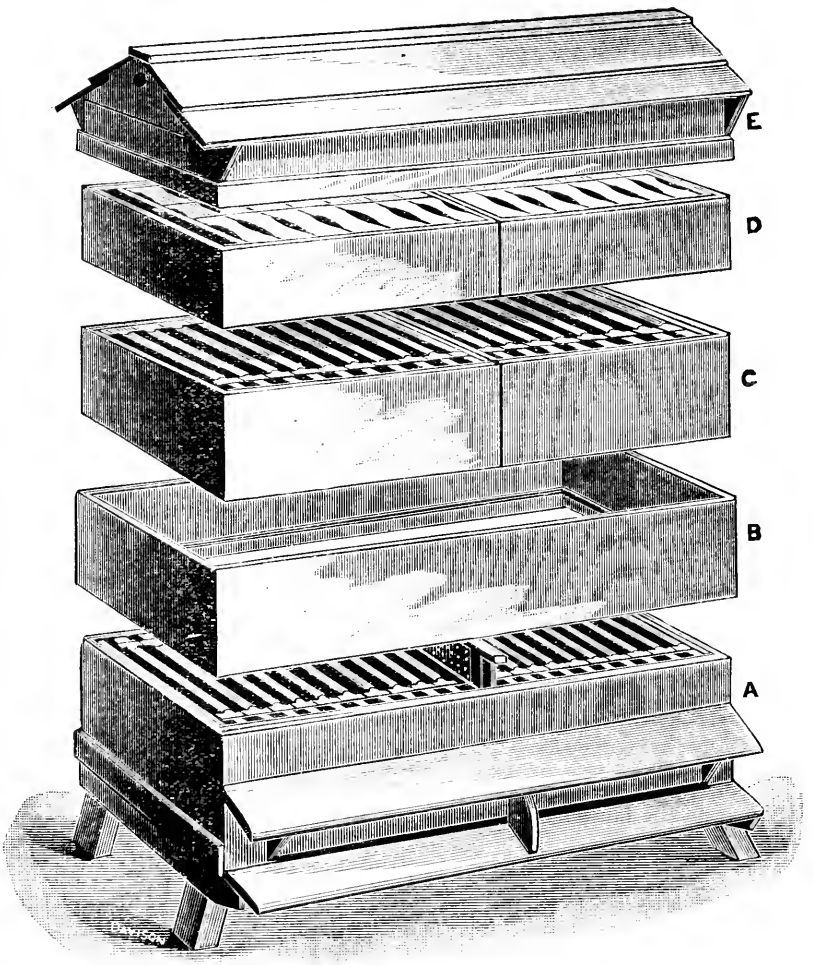
BEE LECTURE AT EAST STOCKWITH, LINCOLNSHIRE.

A most interesting and instructive lecture on bee-keeping was given in the Working Men's Institute, on Monday, March 20th, by Mr. F. J. Cribb, certified expert of the B.B.K.A. Mr. Cribb is thoroughly master of his subject, and what made his lecture doubly interesting was the splendid series of lantern slides photographed from life, showing the manipulation of the hives and the various appliances used in connexion with the industry. Owing to the evenings being light, and the labourers employed up to a late hour in their gardens and allotments, the attendance was not so large as it otherwise would have been. Not much is

done in this parish in the way of bee-keeping at present. We hope, after Mr. Cribb's lucid and attractive description of the art, some of the inhabitants at least may be disposed to try their hand at it. We ought to add that the lecture was given under the Technical Education Act by the Committee for the Morton Division.—*Communicated.*

"WELLS" HIVES.

No. 3.—Neighbour's "Wells" Hive.



The double body-box (A) holds twenty frames of standard size (Lee's patent), with W. B. C. ends. The two stocks are separated in the middle by a perforated wood dummy, an extra dummy of ordinary make being supplied to each set of frames, to be used for reducing in winter if such an arrangement is thought desirable. Sheets of perforated zinc for excluding the queens from the upper stories, and quilts for covering the frames, are included. (B) Is a cover of sufficient depth, when the roof is on, to take three sets of sections, or four shallow-frame crates during the honey-flow, and when in use for this purpose rests on a ledge of wood attached to the inside. For wintering, the cover is inverted, and then affords an extra protection to the stocks, in fact, becomes a treble-walled hive. The entrance and porch are in no way affected by this change. (C) A pair of shallow-frame crates for extracting purposes are here shown. These are placed close together, openings being provided so that the bees from both stocks may unite. (D) A pair of section crates, having the same arrangement of openings at the sides, when they join together. (E) Is a strong, weather-proof roof, which fits well down on to the cover, and, on account of its weight, is not likely to be blown off during the prevalence of high winds. A channel is placed along the ridge on the front side to prevent the rain from dropping upon the alighting-boards. The floor-board can be lowered in front for ventilation, and an arrangement is provided by which the same floor-board may be removed altogether and re-inserted on runners fixed two inches below, so as to allow space under the frames in winter.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office,* 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE "WELLS" SYSTEM.

[1382.] Your correspondent, "Benevolous" (1378, p. 117), asks me a very funny question, viz., "Have I ever felt a piece of zinc that has been out of doors on a frosty night?" Well, I have puzzled my brains, but for the life of me I cannot say that I have, and yet I am past the half-century; it is very stupid of me certainly, and I ought to have done so, had it been only to satisfy that gentleman that I knew how cold it was; but I can, perhaps, do it another way, for I do remember touching a piece of wood under the same conditions, and it was exactly the same temperature as zinc would be. But what on earth has this to do with the "Wells" system? If "Benevolous" tells me that by the "Wells" system the bees are going to cling to the perforated divider through the winter, and so make one cluster for the sake of mutual warmth instead of two, as was suggested in the *Journal* lately, I say he is greatly mistaken.

I object altogether to the word "criticism" as applied to my warning, which was intended for young beginners only, and I again say to all such, take the advice of an "old hand," and don't plunge into this system. See the failures already being reported! Why even your correspondent himself confesses his failure, and yet he asks, "Would not practical experience be of more service?" If mine is not practical experience, what else is it? Perhaps "Benevolous" will kindly explain wherein the "Wells" system differs from the twin hive? I have no motive in giving advice save the desire to prevent young beginners from being carried into expensive and difficult methods with great expectations, while experience teaches me that disappointment and loss are most likely to be the result; and, having derived great benefit from the *Journal* myself ever since it first appeared, if I can be of service to my fellow-readers, I desire to render that small return whenever circumstances will permit.

Will "Benevolous" criticise those inquiries about the "Wells" system which are constantly appearing in the columns of the *Journal* under "Queries and Replies," and kindly tell us whether, in his opinion, the writers ought to be encouraged to pursue such a complicated and difficult system? which *I* say is only suited to the greatest expert, in whose hands I should be perfectly ready to criticise the system.

May I take this opportunity of saying how pleased I was to see Mr. W. B. Webster describe the bees *mixing nectar with the pollen* while on the wing instead of saliva, as a certain gentleman lately discovered; it is a very ticklish question, notwithstanding the discovery which was announced so emphatically, and I agree with Mr. Webster chiefly on the ground of economy, for the exhaustion of producing such large quantities of saliva can scarcely be compensated for in the digestive powers it is supposed to possess. I do not think it possible to tell by observation only whether it be nectar or saliva.—THOMAS F. WARD, *Church House, Highgate, March 24th.*

INSTINCT OR INTELLIGENCE?

[1383.] On seeing the above heading, some readers may instinctively observe, "As a practical bee-keeper this does not interest me." But I would ask, "Why should it not?" Is it because he dare not believe that the bee possesses any intelligence at all? And what grounds are there for so believing? Those who have had occasion to marvel at the wonderful ways of the little worker-bee must have felt in some degree how poor and feeble are the gifts with which humanity is endowed when compared with those given to some of the lowliest creatures of the great Creator; and in view of this may we not, after all, be wrong in arrogating all the intellectual powers to ourselves? Mr. Cheshire says, "The grandeur of the minute will as successfully hush to silence the thoughtful man as the grandeur of the vast."

No doubt the highest authorities agree that the wonderful operations carried on in the insect world are due to instinct alone, and only to the higher orders is a very meagre modicum of intelligence allotted. But are the authorities quite right in their contention?

I am not unacquainted with the theory that the true reasoning faculty is possessed only by vertebrate animals having a cerebrum; that the character of the cerebrum is the measure of intelligence; and that physiological distinctions are drawn and designated by many names, such as *rational instinct, higher phases of instinct, instinctive reason*, &c.; but the lines of demarcation, beautiful though they be, appear to me to be very faint, and difficult to distinguish. Indeed, it seems as if we of the *genus homo* are apt to take more than our share when we claim to be almost the sole possessors of intelligence. As an illustration of what I mean, may I be allowed to conclude by giving a few instances of the different colouring which may be put upon the motives guiding men *and bees* in performing precisely similar actions in the domestic economy of their respective households when seen through *our* spectacles only?

A man eats because he is hungry—this is instinct; a man works to gain the wherewithal to obtain food to provide for his being hungry again, and for the prospective wants of his family—this is intelligence. A bee eats because it is hungry—this is instinct. A bee works to provide for being hungry again, and for her congeners' wants—*this is instinct*. A bee lays by abundant stores for "a rainy day," and to provide food for young ones not yet in existence—*this is also instinct*.

Many men do not lay by for "a rainy day" at all, but their whole object in life centres in themselves and their immediate wants—*this, of course, is intelligence!* Men deprive bees of their stores, which is well and good to a certain extent when we give them syrup back in return; but in a large number of cases men deprive bees to an extent totally unwarrantable, and even so far as to reduce the colony to starvation—*this is intelligence* also, no doubt. I wonder what the bees would say to this beautifully unbiassed way of putting it if they could but *talk?*

I know in writing thus I am treading on delicate ground, but bear in mind that this is only an emanation from the pen of—THE HEATHEN.

DEPTH OF ENTRANCES TO "WELLS" HIVES.

[1384.] I noticed in the *Journal* (page 108) a question asked about the depth of opening at entrance of the "Wells" hive. I think your correspondents will find they can secure sufficient ventilation without the danger of lowering floor-board and displacing dummies, admitting mice, &c., if they make the openings as I have done. I first saw out a strip two inches deep across the front of each half of the hive, leaving two inches at each side for support. I plane this strip until, when put back in its place, it leaves three-eighths of an inch space between it and the floor-board. I then fasten it by small hinges on the hive again. On this strip I fasten the ordinary movable shutters, leaving the three-eighths of an inch entrance for general use. In case more ventilation is required, the strip, with the movable shutters, can be raised on its hinges, and thus give an opening any depth up to one and a half inches. I see that the excluder in the illustration of the "Wells" hive is made the whole width of the hive and covers both brood nests. I make mine in two separate parts, and think it better, as I can examine one brood chamber without any risk of the other queen finding her way into the one I have open.—R. F. SHEAVYN, *Atherstone*.

PACKING HIVES FOR WINTER—WINTER PASSAGES.

[1385.] Happy to say that when I examined my hives the other day I did not find one of them the least damp. My mode of packing last autumn was as follows:—After reducing the number of frames and putting dummy boards in position, the space between the dummy boards and the walls was filled with newspapers folded the required size. Over the frames was an impervious quilt of enamelled cloth; upon this was a thick layer of newspapers, and over this four thicknesses of carpeting. Pieces of camphor were placed between the paper and carpeting. The entrance opened in November to its greatest extent, and left so until the middle of February. I do not believe in cutting winter passages through the comb, but prefer placing narrow strips of wood about $\frac{3}{8}$ in. thick immediately over the frames. I intend leaving these on until I have done feeding, for I find the bees can get to the syrup in the feeder far easier than they could were the strips not there. I found no difficulty last year in selling what little surplus extracted honey I had at one shilling per pound; in fact, I could not supply all my would-be customers, and have now more orders for this year than I expect I shall be able to complete. I could not find buyers for sectional honey, so was obliged to extract; hence my intended plan of working this year for extracted honey, as described in my letter (1318, p. 46).—PERCY LEIGH, *Beemount, Stoke Prior, March 17th*.

A LABOURER'S "NEW DEPARTURE."

[1386.] I purchased five straw skeps of bees last August, and they seem to have wintered all right. When may I cut holes in the crowns of hives for feeding? The bees in all have been busy carrying in pollen, so I suppose they are breeding. I have been feeding them for a month by pushing a little wooden trough filled with honey and sugar in the flight-hole, but I seem to have been living in the dark ages so far as bees go. However, I have now resolved not to destroy any more of my bees with brimstone at the end of the honey season, as was my usual plan.

I shall make a new departure by trying to work my skeps with section racks on top, and, if they swarm, I am going to put them into standard frame hives. I am taking the *Bee Journal* now regularly, and will look for reply to my query in it.—AN ESSEX LABOURER, *March 14th*.

[If the skeps are badly provisioned, no time should be lost in cutting holes in crowns for feeding. We are pleased to note your intention to try modern methods of bee-keeping, and wish you every success. In fitting up the section racks above the skeps, be sure and make a firm platform on which they are to stand. It must be remembered that a dome-shaped skep is an awkward hive for working sections on, and care will be required in the operation. With flat-topped skeps it is easy enough, but with the others, a platform standing on four legs should be fixed above to prevent any risk of the rack of sections "toppling over."—EDS.]

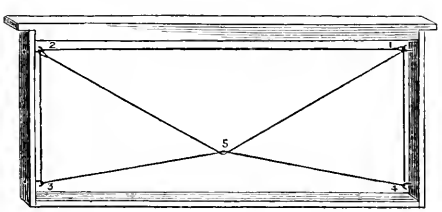
NOTES FROM THE WORKSHOP.

Fixing Foundation in Frames—Wiring Frames.

[1387.] Notwithstanding the many devices, ingenious and otherwise, that are on the market for fixing foundation, I prefer to use melted wax, whether for starters or larger pieces. A double vessel, glue-pot fashion (not a smelter), stands on a lamp by my side, the foundation is placed againt top bar, and a little wax is neatly painted along the joint with a small brush; the job only takes a few seconds, *not minutes*, and foundation is fixed as strongly as it is possible to fix it.

A querist (711, p. 49) finds the one-eighth-inch bottom bar not stiff enough for wiring frames, but it is quite strong enough for the following method, which was shown to me in 1890 by Mr. W. B. Webster. Taking a standard frame, three-quarter wire nails are driven in the side bars from the outside at points 1, 2, 3, and 4; the pointed ends are then bent with a small pair of pliers to form hooks; then take about seven feet six inches of *tinned* iron wire (No. 32 gauge), attach the end to hook 1, and pass it fairly tight to hooks 2 and 3, then under the first length at 5, drawing the wire into the position shown, the same operation repeated from 6, 7, 8, 9, and fasten the end at 10. This forms a strong construction, and, as the strain is all on the diagonals, there is no bending of the sides; moreover, as the wire is very fine, the queen does not object to lay in all the cells.—W. H. Augur, *Staines*.

[We have not had a block prepared to our correspondent's sketch, because the one below



which is a well-known American plan, saves half the wire, entails just one-half the labour—numbering five points, instead of ten—and is quite as effective.—Eds.]

QUEENS FERTILISED IN FULL COLONIES WITH LAYING QUEEN.

[1388.] Your correspondent "R. T." (1374, p. 107), asks me a question which I beg to reply to as follows:—By exchanging hives the artificial swarm and old queen are below, brood combs above. When queen-cells in latter are expected to hatch out, reverse the hives, giving double queen-excluder between.

While writing, I would warn bee-keepers going in for Wells hives on the principle named in Query No. 732 (p. 108), on no account during the winter months to have entrances on different or opposite sides of such hives, which would cause the cold outside air to rush with roaring force through the two hives, creating draught.—J. G. K., *Grove House, Southborough, Kent.*

[Notwithstanding our correspondent's "warning," we still hold to the opinion expressed in our reply to "F. F.," viz., that no harm would result.—Eds.]

HEREFORDSHIRE BEE-KEEPERS' ASSOCIATION.

Bee-van Lecture Tour.

[1389.] We have just published an annual report containing a full account (with six illustrations) of the method followed in our van tour of last year. As this method of instruction is quite a new departure (especially as regards the outdoor lantern lectures on summer nights, illustrated with photographic lantern slides) some of your readers may wish to have a copy of the report, and I shall be happy to send one to any applicant enclosing stamp for postage. Alfred Watkins, *Hon. Secretary, H.B.K.A., Hereford, March 13th.*

Echoes from the Hives.

Carr Bridge, Inverness-shire, March 13th.—Have wintered seventy stocks without loss, packed between outer case and hive with green moss well dried, and find it excellent for the purpose.—Wm. Stokes.

Northampton, March 26th.—Six little showers, amounting altogether to only ·13 inch of rain, is the record for March up to date, leaving a balance of twenty bright, sunny, cloudless days of dry wind and rather cool temperature. Frosty nights have retarded vegetation, nevertheless bees have been doing very well. No reports of absolute loss have as yet reached me. There is great disparity in the strength of stocks, some being abnormally strong, others wofully weak: the latter are making a good fight of it, and seem determined to pull through. In my own case robbing is at a discount, I never saw so little—a state of things I attribute to the use of Langstroth blocks and the disuse of syrup. Pollen is plentiful just now, and in great variety—dead-white, semi-transparent green, yellow, orange, and vermilion. Whence comes the last, I wonder? Gooseberries and currants are beginning to bloom, almonds are in full blow, pears and plums nearly ready. To-day is hazy, and a large solar halo, which continued for nearly two hours this afternoon, probably portended weather less favourable to bee-keepers than that of the past three or four weeks.—E. B.

Queries and Replies.

[742.] *Giving Brood to Weak Stocks.*—1. I have two weak stocks of bees and want to give them frames of brood to strengthen them; will you kindly tell me if the brood should be sealed up before moving, and when will be best time? 2. I also have a stock with very badly-built combs, two frames united. I want to replace them with frames of comb; when should I do that? Could you give me the address of Mr. Lee, patentee of frames and sections?—CHARLES BACON.

REPLY.—1. It is very risky to give frames of brood to weak stocks. To answer your query correctly we should know *how* weak, and have some idea *why* they are weak. Brood should never be given to stocks where there are not bees enough to cover the brood well, otherwise it is liable to chill and perish. The "best time" is when the weather is warm and cold nights have passed away. 2. If the "badly-built combs" have no brood in them they may be removed forthwith. A letter will find Mr. Lee at Messrs. Neighbour & Sons, High Holborn, W.C.

[743.] *Building up Stocks by Adding Brood.*—With reference to query 733 (p. 108), I think you must have misunderstood my meaning. It is not a question of improving a weak swarm at the cost of stronger ones, but of building up a strong swarm wintered on eight frames into one of twelve frames of brood. This is what I wish to do. I should choose, of course, the strongest stock in my apiary to begin with; but whether to trust to its own powers of increase or to assist it by adding four frames from other hives is the point I am in doubt about. The result to be attained is a hive of twelve, or at least ten frames of brood by the beginning of the honey-flow, so as to be ready to work into frames of foundation separated from the brood frames by a queen-excluder. What I want to do is just what you speak of in your reply, foster my strongest hive. The information I request is as to when extra combs of brood may be added, if it is desirable to add them.—WEST LINCOLNSHIRE.

REPLY.—When our correspondent referred to the "risk of chilling brood by not having bees to cover it," the natural inference we drew was that he desired to strengthen a weak stock by adding brood, &c. There should be no difficulty in building up a stock *now strong* into one of ten or twelve frames of brood by the beginning of the ordinary honey-flow, say first week of June. If combs of brood are given to strengthen stocks it should only be to such as have plenty of bees to cover the combs so given, and when the risk of severe night frosts has passed away.

[744.] *Stocking "Wells" Hives.*—I have been much interested in the various articles on the double-queened hives introduced by Mr. Wells, and I am adapting a large hive I have, and should be obliged if you would advise me as to which would be the better course to take with a view to securing a good yield of honey. I have two straw skeps and two frame hives (one rather weak). Would it be best to transfer the frame hives' stocks to the Wells hive and feed with syrup, or to drive the skeps and put the bees on fully drawn-out combs, or to wait till the skeps swarm and then put the swarms in, or to place the skeps on the top of the frames of the double hive and let the bees work down, and remove the skeps when the bees had taken possession of the bottom frames? I do not care to increase my stocks this year, and so should like to do what would be most likely to give me a good yield of honey.—DRAPER.

REPLY.—We should transfer the stocks in frame hives into the double-queened one. By doing this the full results of the system will be at once gained.

[745.] *Preventing Robbing.*—What is the best preventive against robbing? I have five stocks all in frame hives, and I am pestered every year about this time with robber-bees from a neighbour's place a very short distance away. Mine are English bees; the robbers are Syrians. —W. N., *Whittle Cottage, Prudhoe.*

REPLY.—The best preventives are: 1. Do no feeding unless absolutely required, and then only at night-time. 2. Keep entrances very narrow. 3. Don't open hives if it can be helped. 4. Use carbolic acid about entrances if the robbers attack strongly. 5. Keep your stocks strong.

[746.] *Early Drones in Scotland.*—This afternoon (20th) being extra fine, I took a look round my bee-house, and was surprised to see drones flying from one of the strongest stocks. Is this not very early for dones, especially in Scotland? All my stocks are in splendid condition, plenty of bees, brood, and sealed stores; have lost but one out of thirty-two.—JAMES KERR, *Dumfries.*

REPLY.—If the drones are from a stock in normal condition, it is very early.—EDS.

Notices to Correspondents and Inquirers.

J. SELLERS (Swanland).—*Royal Show Prize Schedules.*—The above may be had from Mr. Huckle, Kings Langley, Herts.

J. H. H. (Newton-le-Willows).—*Wells Division Boards.*—The holes in the slip of wood sent are too far apart and smaller than is recommended by Mr. Wells. It has been found that if the holes are small the bees more readily propolise them up than if larger. The larger oblong holes burnt through the wood will not exclude queens as you suppose. For that purpose zinc only must be used.

A NOVICE IN BEE-KEEPING (Hatfield).—*Preventing Swarming.*—There is no certain way of preventing swarming. Giving plenty of room and ventilation as hives become crowded tends that way, but does not quite ensure it. To attempt to stop swarming by cutting out queen-cells as fast as these appeared would

necessitate a constant and troublesome upset and is therefore impracticable. Spring feeding if stores are short should only cease when food can be had outside.

E. J. B. (Winchester)—*Honey-comb Designs.*—1. Full instructions for making these appear in our monthly for April, 1890, which can be had post free for two stamps. 2. Sections may be given as soon as the hive is fairly well filled with bees and honey is coming in, say, last week in May. 3. Yes.

H. Rees (Monmouth).—Any *guaranteed* pure cane sugar is good for bees.

B. E. W.—Bees sent are well-marked Ligurians.

Tyro (Bideford).—1. *Calico for Covering Frames.*—The unbleached is best because the absence of "dressing" makes it more suitable for the purpose. 2. *Queen-excluders.*—It is a moot point among bee-keepers whether the zinc should lie close on the frame-tops or not. We prefer to use it so, but a "queen-excluding honey-board" has a bee-space above and below the zinc. 3. American cloth is the best covering to put next the frames.

"Stingbug" (Croydon).—*Transferring Bees to Frame Hives.*—Of the methods proposed, we advise that of making an artificial swarm in the usual way by driving. The safest time to do it is about the second week in May, if the weather is favourable.

G. S. Lyons (Hastings).—*The "Wells" System.*—Since the object is to get the "best results" this season, regardless of cost, two full stocks would of course make a far better start than two nucleus colonies. But, as to the frames "fitting properly," any correct size standard frame will fit the hive you have.

H. C. (Warlingham).—No trace of disease in comb sent; cells contain only healthy pollen.

Salopian.—We find nothing in bees sent to indicate disease. If the stock is working well as stated, most likely the present genial weather will soon make all right again.

West Lincs. Rector.—1. *Boiling Syrup.*—Personally we always boil our bee-syrup for wintering on, and never boil it in the spring, and have no trouble with "clogged feeders" or granulated syrup. 2. *Cane Sugar for Bee-food.*—Your experience has been contrary to our own. However, since no evil has resulted, there is no reason why you should not continue using beet sugar until something occurs to make a change necessary.

F. F. (Clapham).—1. *Wiring Frames.*—In using full sheets of foundation in any frame, it is much safer if wired in. 2. For what purpose do you propose to use the "tarred roofing felt?" If for covering frames, as has been recommended, the most suitable kind is that known as patent roofing felt. 3. If the "soiling" on combs is only slight, they may be used again, otherwise we should melt them down.

H. Atlee.—We have forwarded your letter to Mr. Huckle.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES AND QUEENS.—Choice Ligurian, Carniolan, and English Stocks, Swarms, and Queens. Prices on application. Address C. T. Overton, Crawley, Sussex. 3

CHRISTMAS Roses, 3, 1s.; Japanese Anemones, 12, 1s. 6d.; Mrs. Sinkin's Pinks, 12, 2s.; Herbaceous Phloxes, assorted; Pyrethrums, grand colours, 12, 1s. 3d. Iceland Poppies, 24, 1s. 3d. Iceland, Shirley, Mikado, Swan, Bride, Mephisto, Danebrog, Marselli, Poppy Seed, 2d. packet, 8, 1s. Other Choice Flower Seeds, 12 packets, 1s. Address Vicar, Eggington, Leighton Buzzard.

BEE SEEDS recommended by Bee-keepers, guaranteed best sorts, 13 large Packets, 1s., post free. Address J. Bennett, Bee-keeper, Seedsman, and Florist, 178 Spon Street, Coventry.

ELEVEN Stocks in splendid condition, in good Bar-frame Hives, 6 extra Hives, Extractor, Ripener, and all requisites, to be Sold owing to removal. Will sell portion Address Moss, Danby House, Ripon.

STRONG Healthy Swarms of English Bees, ready first week in May. Foul brood unknown in my Apiary. Expert declares county free. Orders booked now, executed in rotation. Address Edward Gibbins, Neath, Glamorganshire. 5

FOR SALE.—Modern Apiary and all Accessories, including 5 healthy Stocks, 21 Supers, extra Hives, Guinea Extractor, &c., and over 100 lbs. of Honey in 1-lb. Sections. Splendid condition. Took majority of Prizes at Long Ashton Show, 1891. Must sell, leaving home. Apply to H. B. Tripp, Winford Rectory, near Bristol.

THE English Rose Bar-frame Hive. Orders addressed to J. Sellers, Swanland, near Brough, Yorks. Price List on application. 3

I WILL accept 60s. for my last Cwt. of Honey. Address R. W. Eagleton, The Apiary, Parson Drove, near Wisbech.

FINE Strong Healthy Swarms for Sale; good-tempered Bees. First Swarms, 15s.; second, 10s. Address E. Tresidder, Enderby, Warham Road, South Croydon.

PURE Clover Honey, in Tins, 7 Cwt. at 7d. per lb. Address Apiarist, Fairspeir, Ascott Wychwood, Oxford.

TWO Good Stocks of Bees in Skeps, 10s. each. Disease unknown in this district. Apply for particulars to Lyon, Soham, Cambs.

TWO Bar Frame Hives for Sale, 10 Standard and 10 Shallow Frames in each, Queen Excluders, Metal Ends, Quilts, &c., equal to new. Only 14s. 6d. each; bargain. H. Y. Skinner, Broad Street, Whittlesea.

Also several hundred Standard and Shallow Frames, 15½ and 17 in. Top Bars, planed, new, 1s. 3d. per doz., 8s. per hundred. Must sell.

The "Wells" Hive, complete, with 40 Standard Frames, Metal Ends, Queen Excluder, Enamelled Quilt, Perforated Division, &c., new, interchangeable, 25s. Address as above.

WEBSTER'S Book of Bee-keeping, post free, 1s.; cloth, 1s. 6d. W. B. Webster, Binfield, Berks. "One of the best foreign works."—*American Apiculturist.* "The matter is evidently the result of long personal observation, and is thoroughly reliable."—*Bee-keepers' Record.* "Have much pleasure in recommending the manual to our readers."—*British Bee Journal.*

EXPERT WANTED

AT ONCE, BY THE

LANCASHIRE & CHESHIRE BEE-KEEPERS' ASSOCIATION.

Good pay to a competent man.

For further particulars apply to T. D. Schofield, Alderley Edge, Cheshire.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 563. Vol. XXI. N.S. 171.] APRIL 6, 1893. [*Published Weekly.*

Editorial, Notices, &c.

APPLIANCE DEALERS AND THEIR CUSTOMERS.

The crop of complaints against those sad offenders—in the eyes of their more impetuous and hasty-tempered customers—which every year reach us, has this year started even earlier than usual, and we avail ourselves of the opportunity for once more suggesting that bee-keepers will themselves endeavour to reduce the irritation on one side, and vexation and disappointment on the other, so frequent in the busy season between dealers and their clients. This can only be done by ordering goods soon. Those who do so will avoid loss sometimes and annoyance always; there is still a month or six weeks in which to get supplied, and if dealers receive notice of what is wanted now they will prepare themselves accordingly.

That there is good ground for complaint in the letter before us will be admitted; but even the writer thereof would acknowledge how very much may be said on the other side, if he had read the most unreasonable demands made upon dealers by customers, specimens of which have been submitted to us. However, we do not wish to suppress his complaint, but print it below—omitting name, of course—believing, as we do, that its perusal may have a good effect all round. The writer says:—

"Will you allow me, through your columns, to protest most strongly against the abominable manner in which purchasers are treated by some of our most popular appliance dealers. It is a recognised rule with them that no goods are sent out until cash is received. Now, I should not grumble about this if goods were sent with the same promptitude as the cash is demanded; but this is frequently not so.

"It is now a month ago since certain goods were ordered by me from one of our most noted appliance dealers. Of course invoice came as usual with the demand for cash, and this in spite of the fact that we had several times done satisfactory business together and were *personally known* to each other. Cash was promptly sent; goods have not yet arrived. Comment is needless; but the least I can say is that if goods were not ready, invoice ought not to have been sent out until they were. I have quite made up my mind in future to send bankers' references instead of cash. I shall then be at liberty to cancel order if not executed within reasonable time. If reference is not sufficient for them, I will go without the goods, as this is not the first time I have been served this trick."

There seems no excuse for keeping goods back so long after they are paid for, as stated above, but it just occurs to us to ask if the delay may not be caused through the non-arrival of the new season's sections from America? These do not usually reach this country till April; and if such formed part of our correspondent's order, it may tend to explain matters. Anyway, we trust that our space may not be occupied in the coming season by the relation of complaints on one side or the other. This is our sole reason for drawing attention to the matter just now.

SPECIAL NOTICE TO READERS.

We are once again compelled to specially request that our readers will discontinue sending communications for the *B. J.* or *Record* to Kings Langley instead of our only office, 17 King William Street, Strand, W.C. Also to bear in mind that letters intended for the British Bee-keepers' Association should be addressed to the Secretary, Mr. Huckle, Kings Langley, and not to us.

But for the trouble, loss of time, and cost of *re*-posting, it would be amusing to note the persistence with which some correspondents insist on joining together the

B. B. K. A. and our journals; but the climax of absurdity was surely reached a day or two ago, when a would-be candidate for expert's certificate not only sent his letter to us, but addressed it, "The Editor of the British Bee-keepers' Association!"

Another point also too frequently neglected is that of failing to *cross* postal orders and cheques when forwarding cash. This omission has already resulted in loss to correspondents, for, of course, we cannot be held responsible for the contents of letters which fail to reach us. The simple precaution, however, of "crossing" renders postal orders or cheques practically valueless to persons either finding or stealing them, and it is a pity to run risks when they are so easily avoided.

Finally, as the season for an increase in such inquiries is near at hand, we must respectfully insist on correspondents sending samples of comb, in cases of suspected foul brood, apart from letters referring to them; not necessarily by separate post, though this is preferable, but in an envelope outside the box containing the comb. Samples such as we have just cause to complain of, *i.e.*, those badly packed, and with the accompanying letters stuck on the surface of the foul-broody comb, will be promptly burnt without inspection.

The Editor of our American contemporary, *Gleanings*, has refused to receive samples of diseased comb at all, because of the risk to his own bees attendant thereon; and seeing that we too have bees of our own to care for and keep healthy, if we can, the least such of our correspondents as desire our help can do in return is to take the small amount of trouble we ask of them.

BRITISH BEE-KEEPERS' ASSOCIATION.

(*Continued from page* 123.)

Conversazione.

The proceedings commenced at 6 p.m., Mr. Jonas presiding.

Mr. Carr thought it would be a good opportunity, as Mr. Wells was present, to obtain from that gentleman some further description of the details of his system, which had been, as they all knew, phenomenally successful. He (the speaker) had a special interest in the matter, because as co-editor of the *B. B. J.* he could bear witness to the mass of correspondence which had been received at the office of the *Journal* regarding the Wells hive and method of working. Inquiries were made as to the make, shape, dimensions, and all the different adaptabilities of the hive, and any description of the double-queen system Mr. Wells would favour the meeting with would be of assistance to bee-keepers generally, as well as to the editors themselves, who at present knew little more than their correspondents did of Mr. Wells' methods. It was proposed to give illustrations in the *B. B. J.* of the hives in question, coupled with any information on the subject Mr. Wells liked to supply; and since the bee-season would soon be upon us, it would be desirable to know if he intended this year to make any changes in his plan of working.

Mr. Wells, in replying, said that he would be very glad to render any assistance he could. He had tried his system of working with two queens for two years, and the longer he continued the plan the better he liked it. All his hives now were double-queened, and the splendid condition in which they appeared to be astonished him. Only the previous day he had been compelled to put an extra box of shallow frames on the top of the standard-size frames below. He had very little more to add to what he had written in the *Journal;* perhaps there was one new experience he might relate as being of some interest. He had lost a queen during the winter, and as soon as the bees began to fly, the queenless lot came out, and of their own accord moved into the other side, where there was a queen, thus saving him the trouble of uniting or shifting them. He had only ten hives and twenty queens, and he intended to continue on the same lines as he had been working during the last year or more, which had been the most profitable in his experience. He had brought up for inspection a sample of his dummy or division-board, which had been in use two years, and about which he had received a good deal of correspondence. He would be happy to answer any questions.

Mr. Cowan inquired how, in making a start on Mr. Wells' plan, the doubling was managed, whether by uniting two full stocks together, or whether a small nucleus colony was added to a single stock in spring. The difficulty of starting in the last-named way was in building the nucleus up to a full colony in time for the harvest. He noticed a few days ago in an American paper a reference to this system which was described as quite a new thing of American invention. He was glad that his own country could claim the priority.

Mr. Wells replied that as a first start on the double-queen plan he had joined two stocks by bringing the two hives containing them close together some time before joining both lots in the same hive. His after-proceedings were on the lines he had already explained at the meeting last year. Because his hives only held fourteen frames, seven on each side of the division-board, he found it necessary to add a box holding fourteen shallow frames above, in order to enlarge the respective brood nests to seven standard and seven shallow frames. Of course, the queens had access to these, but he divided the upper brood chamber by a solid divider, thinking that the perforated one below would

answer the purpose of giving all the bees the same odour, and this had proved to be the case, for on the previous day (14th inst.) one of his stocks becoming very crowded with bees, he had given a surplus chamber into which all the worker-bees could enter through the excluder, and he had seen no signs of any fighting. In answer to Mr. Cowan and Mr. Hooker, Mr. Wells said that the two hives he brought together were both double hives, so that he had only one lot to change. By using the "lifter" shown last year he lifted the whole of the frames out in a bunch from one hive and dropped them into the other, so that the least possible disturbance took place.

Some discussion here took place between Messrs. Carr, Blow, and Baldwin, as to the most convenient form of surplus crate for the Wells hive, and it eventually became apparent that the differences arose from the fact that Mr. Wells using a hive holding only fourteen standard frames and a surplus chamber holding the same number of shallow frames, whereas in all the Wells hives now being made the number of frames in the body-box is twenty.

Mr. Wells explained that the hives containing fourteen frames only were not large enough for his system, but he had utilised such hives because he already had them in his possession and could not afford to waste them; he put a crate of shallow frames on top to extend the brood nest, as explained above, and then the excluder zinc above these. Last year he had as many as five boxes of shallow frames above the brood chamber in his best hives. He worked principally last year for extracting. Referring to a twenty-frame hive, what he recommended was that the crate should be in two parts, and that a quarter of an inch should be taken off from each of the two crates of sections, or of shallow frames, on the inner side, where they met together, which would allow of the bees running indiscriminately over the top of the excluder zinc. It would be possible to have one crate to cover the whole of the twenty frames.

Mr. Blow, in order to avoid misapprehension, stated that, if fourteen-frame hives were used, it would not be practicable to cover them with the super crates that would suit a twenty-bar hive. On the occasion of his visit to Mr. Wells' apiary it was his privilege to see a collection of crates and frames the like of which he had never seen before. The combs were fixed to every part of the frames, no holes being visible anywhere. He also saw there another sort of hive with several entrances, which, with the assistance of perforated dummies, and allowing three combs each, was used for the purpose of maintaining several nuclei, and thus a stock of queens could be easily kept.

Mr. Garratt and Mr. Hooker thought the plan described an excellent one.

Mr. Baldwin spoke in favour of the exclusive use of standard frames for both brood and surplus chambers; there were many disadvantages in using different-sized frames.

Mr. Wells invariably used standard frames for nuclei, but as regarded tiering up for honey-extraction he preferred shallow frames.

Mr. Carr advocated the use of standard frames for brood, and the shallow frames for surplus chambers. Nuclei would always be put on standard frames. He differed from Mr. Baldwin as regarded the statement that each of Mr. Wells' hives contained two stocks. To say that that was so in the ordinary sense of the term was a mistake; if not, the average produce of each hive must be halved. It was not two colonies, but two queens that made a Wells colony; and in the autumn, when Mr. Wells removed the older of the two queens, he removed the perforated divider and simply pushed the whole of the bees up to one end of the hive. Then he reinserted the divider, and on the other side of it placed one of his young queens along with the nucleus colony in which she had been reared, thus again making the stock a double-queened one. Then, as to the supering part of the system: if they had two queens each at work on the ten standard frames, and the bees were given a surplus chamber of twenty frames, there was no advantage to be gained, from the "supering" point of view, over keeping two stocks apart and supering each with ten frames; but if a small chamber of only ten frames were given above the perforated divider, then the bees from both lots would be working in it at double strength.

Mr. Wells said that whenever he fancied there were not enough bees to fill up the surplus chambers, he contracted them by putting dummies on the ends thereof, supplying what combs were needed, and removing the dummies if more room should be required.

Mr. Baldwin thought that if two separate colonies were put into the twin hive, which he understood was Mr. Wells' system, he was correct in speaking of them as two colonies. Whether or not they were ultimately reduced to one colony did not affect the question.

Mr. Cowan said it seemed to him that Mr. Carr and Mr. Baldwin were both right and both wrong. At one time of the year the bees formed two colonies, and at another time one only. Mr. Wells' system proved that two colonies by themselves did not produce so much as two colonies put together.

The discussion was continued by Messrs. Wells, Carr, Baldwin, and Hooker.

Mr. Blow believed that one of the chief secrets of success was the introduction of young queens every year—that was just when they were in their prime for breeding purposes. He considered that Mr. Wells' method involved great care, and would certainly not be successful in the hands of careless bee-keepers, as unless the bees were managed with skill and judgment fighting would ensue.

Mr. Garratt thought that fighting would be unlikely to take place when the bees were all intent on gathering honey and pollen, but that possibly after the honey season was over it would be difficult to keep them quiet when side by side.

Mr. Wells had never known a case of the kind. He always made certain that the bees could not get together inside. As to the outside he always for the first three or four days put up a large temporary division on the alighting-board between the entrances. After that time he thought there was no danger.

A conversation ensued between Messrs. Hooker, Garratt, Wells, Baldwin, Blow, and Meggy, relative to the manipulation of frames, singly or in bulk, and the raising and lowering of the floor-board.

The Chairman exhibited a specimen bottle of honey, corked, labelled, and prepared in the same way as the stock sent out to Chicago.

Mr. Carr exhibited a glass honey-pail capable of holding seven or eight pounds. It had a screw cap of iron, nickel-plated, into which were inserted handles for carrying. He also showed an American "Porter bee-escape."

The Chairman showed a sample of honey produced by Mr. Wells' bees in 1885, which, he thought, proved that there was no occasion for bee-keepers to be in a hurry to dispose of their supplies.

Mr. Cowan exhibited a sample bottle of perfectly liquid fruit sugar used for adulterating and making artificial honey. A similar specimen was forwarded to the *B.B.J.* in 1890, when an endeavour was made to introduce the article to bee-keepers. Some of those present would remember the correspondence in the *Journal* about it. In the American papers there had been some advocacy of feeding bees on sugar syrup to produce combs; but he was glad the English papers had not followed such a course. The practice was common enough in 1874, but the shows had done away with that sort of adulteration. The Scotch were at one time adepts at producing supers with sugar, and they were not altogether free from the stigma now. Only two years ago he saw in Scotland sections being worked with a bottle of syrup on the top of them, it being argued that the bees would not store the syrup in the sections, but use it as food. It had also been maintained by several authorities (Professor Cook among the number) that, because the cane sugar which nectar contained was converted into the grape sugar of honey, that ordinary cane sugar given to bees would be transformed in the same way, and that it was quite impossible to tell the difference between sugar-fed combs and the legitimate production. It was well known that as adulteration advanced scientific men had no difficulty in finding means to discover such frauds. Formerly analysts depended principally on the polariscope, which, however, failed to some extent in coping with the latest methods of adulteration. However, Dr. Haenle had now found that, by dialysing honey before using the polariscope, he could tell whether honey was adulterated with cane or any other sugar.

Dextrose turned the rays of light to the right, and levulose to the left. In the composition of pure honey levulose was slightly in excess of dextrose; consequently in such case the rays of light were turned more or less to the left. But it was found that some honeys turned them to the right. This was unaccountable until it was discovered that these particular products contained a large quantity of dextrose derived from pine-trees. But further investigation proved that however much those honeys turned the rays to the right, after dialysis they turned the rays to the left. Then, with cane sugar, experiments had been tried by feeding bees therewith. After six months' storage in the hive the honey was extracted, when it was found that the rays of light turned to the right, just as they did before the sugar had been absorbed by the bees; after dialysis they still turned to the right, although the sugar had passed through the bodies of the bees, because there was sufficient dextrose to cause that deflection. Professor Cook said he produced a certain number of pounds of honey on cane sugar, 67 per cent. of which was converted into grape sugar, therefore it was honey; but if the essential characteristic of honey was the flavour derived from certain flowers, then Professor Cook's production was not honey. By the process of dialysis before polarising it was possible to detect even so small a percentage of adulteration as one or two per cent.; and he had been much struck with the accuracy of results of experiments in that direction. Great progress had been made of late in the chemistry of honey, and he would not advise any bee-keeper to attempt the objectionable system referred to. He thought many American bee-keepers had done themselves harm by talking about it and admitting the possibility of such a method, and he was glad that the mass of bee-keepers there had set their faces against it.

Mr. Carr exhibited a self-hiver, the invention of a bee-keeper who lived near London.

The merits of the different exhibits were freely discussed in general conversation until the close of the meeting.

IMPORTANT PAPER ON FOUL BROOD.

By J. J. Mackenzie, B.A., *Bacteriologist of the Prov. Board of Health, Ont.*

(*Concluded from page* 124.)

You will see that I consider all these methods of treatment do not in themselves necessarily presuppose the destruction of the spores, but depend upon the fact that for a longer or shorter period the spores are prevented from germinating, and in this period they are eliminated from the infected bees. Whether the vitality of the bees themselves has an effect upon the elimination or destruction of the spores is a point which would be extremely interesting, but one on which at present we have no definite information. From the results of bacteriological work on other diseases, we know that the animal body is engaged in a constant warfare with the diseased germs which may be intro-

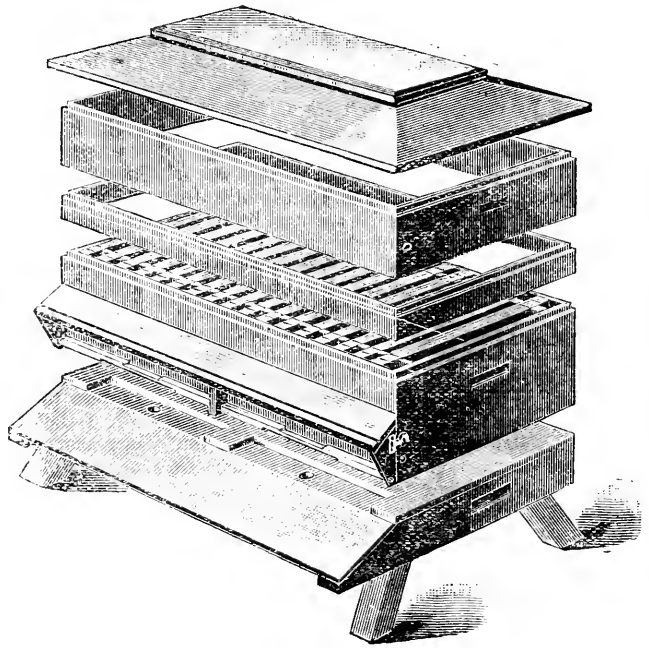
(*Continued on page* 136.)

"WELLS" HIVES.

No. 3.—Howard's "Wells" Hive.

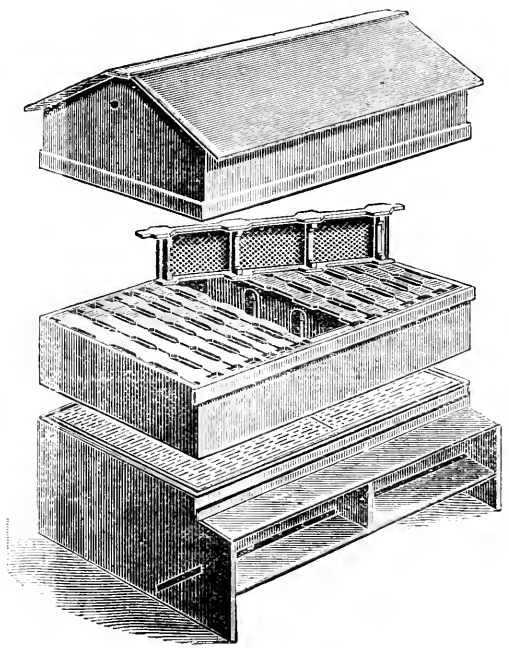
The brood body contains twenty frames and metal ends, two plain dummies, and one "Wells" dummy. Lifts are also made that shallow frames may be worked in them. Two W.B.C. shallow-frame boxes, or two W. B. C. section boxes, with other such boxes, under or over-tiered, or any of our ordinary section racks, may be worked in like manner in the lifts illustrated. All bodies and super lifts are made with the "Howard" break joint, and any part may be used under or over the other.

The same hive may be worked on the "Layens-Howard" system of working two queens under one roof.



"WELLS" HIVES.

No. 4.—A. W. Harrison's "Wells" Hive.



The floor-board is arranged so that it may be lowered to give more space under the frames when reducing size of body hive; the perforated dummy is movable; the front and back are made of $1\frac{1}{4}$ in. well-seasoned timber, and the sides are double. The porch is fitted on the extended sides, giving it more stability.

The hive contains twenty frames, and the queen-excluder zinc is in two pieces, so that either side of the hive can be opened without disturbing the other. Either a crate of sections, shallow frames, or W. B. C. hangers can be supplied.

Surplus chambers may be had in two divisions, with communication between them if desired. The hive is also supplied fitted with strong splayed legs, if such are preferred. It can also have an arrangement for lowering the floor-board two inches in winter if desired.

duced, and this also may be the case with foul brood. Much more extended investigations, however, would be necessary to prove this. It is much safer for apiarists to accept the possibility of a recurrence of the disease after a course of treatment, owing to the lodgment somewhere of some of the spores of *Bacillus alvei*, and by care and cleanliness remove this possibility. To do this, the hives and frames in which a foul-brodly colony has lived must be sterilised, and this may be done in various ways. For the sterilisation of material by disinfectants, there was a tendency formerly amongst bacteriologists to run to such disinfectants as corrosive sublimate, carbolic acid, &c., but later work has shown that there are a number of common chemicals which will act just as well, or perhaps better. Corrosive sublimate has lost much of its reputation as a disinfectant within the last few years, and carbolic has been shown to be not nearly so powerful as at first supposed. For cleaning hives and frames which are suspected to contain the spores of foul brood, a hot ten per cent. solution of soft soap is perhaps as effectual as any that can be recommended. A good strong solution of washing soda when hot is also very active, destroying the spores in a few minutes. Both these are certainly better than five per cent. carbolic for disinfecting the hives and frames, as their cleaning properties are so much better than it, and Belwing has shown that five per cent. carbolic requires at least three hours at blood heat to destroy the spores of anthrax. In case the soap or the washing soda is used, however, it must be used as hot as possible. Of course, anything which is of no value should be burnt.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1390.] The month of March has been exceptional. We as school-children learned that

> "March brings breezes loud and shrill,
> That shake the dancing daffodil;"

but March 1893 has not brought the rough winds, neither have we had the usual storms of rain, sleet, and snow, as an accompaniment to rude *Boreas*. On the first day there was a little rain, but since then to the time of writing we have not had a drop of rain, and now it is the 3rd of April. It has been a grand seed-time for the farmers; March dust in abundance, enough to ransom many kings. And what of the bees? The bees have made good progress; almost too good in some parts, unless we get a continuance of genial springlike weather. The brilliant sunshine has infused life into even the weakest stocks, and if a supply of food adequate to an increased family is provided by the bee-keeper, we may be thankful that our bees have been induced to enlarge the brood nest earlier than usual in a natural manner. I hear of some who are thinking of putting on supers, in forward districts where there is a quantity of fruit-trees and other sources of early honey; but those of us whose earliest forage—with any chance of surplus—is sainfoin or white clover, will have to wait another six or seven weeks before we can venture to do so. In the meantime don't let us forget that the requirements of the colony are increasing every day consequent on the increasing number of young bees and brood, and in cases where we find, on examination, that food is short in the hive, a frame of food, a cake of candy, or a bottle of syrup, should be given as required.

I find the artificial pollen baskets nearly deserted now. This tells me the bees can procure a sufficient supply of natural pollen. The principal sources hereabout are the "wint flower" of the ancients, with which the woods are carpeted; the dandelion, in sheltered positions; the wild pansy in the grass-fields. The fruit-trees are bursting into bloom, also the wild cherries, both promise an abundance of bloom; and the turnips in the fields will be in full bloom before the week is out, unless they are cleared by the sheep. Wasps appear to be numerous this year. I have killed several fine queens around the apiary and the gooseberry-trees.

The interest of bee-keeping still centres around the "Wells" hive. I am glad to note that you, Messrs. Editors, counsel bee-keepers to go slowly into the system. Those of us who have some of the old-style twin hives may utilise them with very little trouble or expense to give the system a trial, but at the end of the season I doubt very much if a larger harvest of honey will be reaped from the hive worked on the two-queen, semi-divided colony than from the two distinct colonies in the twin hive. On paper it may look all right—in practice it may come out a success; but still I cannot detach myself from feeling and knowing, say what we will to the contrary, that the two-queen colony is practically two colonies, and that the produce of two such combined colonies should be counted as the produce of two colonies, just as we always—and, no doubt, our German cousins, from whom we got the idea of twin hives, also—reckon the colonies in twin hives as separate colonies. When, by selection and improved breeding, we can rear queens that will dwell together and vie with each other in ovipositing

in the same colony, and the middle wall of partition can be dispensed with, then it will be a two-queen colony. So long as the partition is required to prevent regicidal combat, so long will it, in my opinion, remain a twin colony, or a dual colony, or two colonies in one hive.

The remark of Mr. F. Mower (1381), that we are drifting into more expensive hives, and thus raising modern bee-keeping further from the reach of the cottager, is true to a great extent; but still, if the hive illustrated on page 114 can be sold for 25*s.*, all I can say of it is that it is a marvel of cheapness; but, to the labourer who is working, as they are hereabouts on Lord Wantage's farms, for 10*s.* per week, I admit the 25*s.* hive, or any other hive at half the price, is beyond their reach; therefore, the modern system of bee-keeping has not, is not, and, going farther, I may say is not likely to be taken up by the agricultural labourer in the future. For recruits to the modern system of bee-keeping we must go to a class above the purely agricultural labourer—the small tradesman, the gardener, the country mechanic, the farming class, and the clergy in the country districts, and the dwellers in "Villadom" and younger members of Society who want a hobby in the towns. There are exceptions, I admit, and I am glad—nay, proud—of the exceptions, where cottagers have adopted and been successful in adding somewhat to their small incomes by bee-keeping on humane methods.

Our friend in Essex (1386) may extemporise a good platform for supering his dome-shaped skeps, very cheaply, by getting some American cheese-boxes from his grocer; cost, 2*d.* to 3*d.* each. One will make two platforms. Saw it in two, then cut a hole in the bottom, and the lid four inches square. Now invert your box over the dome of your hive, and cut the straw hive accordingly. A strong clasp-knife will cut the piece out of the top of skep. A little smoke should be blown into the entrance of the hive before beginning operations. Three or four wire nails will hold the box steady if it fits the hive. Now fill any crevice between the top of hive and the wood with mortar, so that the bees are prevented getting into the inside of the box; and also, when your super is on, keep the draught out of the super. I have had hives in use fitted up in this manner, and have worked both glass supers and sections on them. Now, Mr. Mower, would not this idea form a stepping-stone to better things in bee-keeping for our friends the cottagers? Or an inverted box with an entrance, and a square hole for supering, may better meet your views. A grocer's preserved salmon or beef case would be a suitable size. I have had one such in use some ten years, and have had some of my first-prize sections worked on it. It is enclosed in an outer case, and looks like an ordinary hive. In the apiary the colony is still strong, and appears equal to any colony in the garden. The difficulty with boxes, or log-gums, as our American brethren call them, is that the combs are not movable or under control; but, with properly constructed supering appliances, honey of the finest quality can be secured at a very small initial outlay, and, though it would be a retrograde movement to advocate the adoption of a box hive, yet in some cases it may be a stepping-stone to better things later on.—W. Woodley, *World's End, Newbury.*

DISTANCE BEES FLY AT A PROFIT.

[1391.] The following statement recently appeared in your valuable *Journal:* "Mr. S. Simmins assures us that honey will not be profitably collected if the bees have to go more than half a mile from the apiary." I do not remember ever having made such a statement. In our climate I can readily believe the instance you quote of bees starving within two miles of an avenue of lime-trees. I have had an apiary in the midst of thousands of acres of heather, where the bees were storing rapidly, while at the same time, and during hot, still August days, at my other apiary, not three miles off in a straight line, stocks equally as strong would do nothing at all, and in this apiary there never was in any season a drop of heather honey to be seen, though in some directions large patches of heath were within two miles.

The following paragraph, to be found in *Modern Bee Farm,* will probably explain how your correspondent misquoted me (see p. 192, first edition):—

"I have found bees working two and three miles away from home in good weather, but when there has been nothing nearer little or no surplus would be stored. In the best of weather stores accumulate slowly, and at great expense of life, if the bees have to go more than one mile; but with a 'sea of bloom' within half a mile or less, honey almost pours into the hive."—Samuel Simmins, *Seaford.*

SOME HINTS, SUGGESTIONS, ETC.

[1392.] The following hints may be useful to some of your readers:—1. In early spring, if a weak colony cannot be persuaded to take food—be it candy or syrup—get an unfinished section, uncap one side only, and lay it that side up over the feed-hole—first cutting a hole through the comb at one corner—then lay a bit of thin wood, rather larger than the section, on the top, cover down warmly, make all secure against outsiders, and place a hot brick above all. Next night the uncapped honey will be gone. (I have never known it to fail.) Turn the section over, uncap the other side, and proceed as before. When this is gone the combed section may be turned into a feeder by pouring warm syrup into the upturned cells. Take care, however, not to pour too much syrup in, and also have the hole in the comb at the highest point. 2. Has any reader tried the fronds of the common fern, usually called "bracken," for winter packing? Those who move their bees

to heather, where bracken is often plentiful, may take the hint and secure some on the spot. By picking out all hard, stiff stalks, and drying the other portion in the sun, it makes up into capital mats for covering frames. By using wide tape as binding, and sewing through with needle and thread, mats about one inch thick are made, four bands allowing the centre to be parted in spring for inserting the feeder. These mats are far preferable to straw ones, being softer and warmer. Try them. 3. A hint for temperance men:—Use honey in your herb drinks, and see if it isn't better than sugar both for the *drink* and yourself! 4. A hint for all:—Cut a orange in two, spread the surface with honey, and see if you don't like it!—J. W. BLANKLEY, *Denton, Lincolnshire.*

EARLY DRONES, ETC.

[1393.] I notice Mr. C. B. Bartlett (1367, p. 105) and Mr. S. Newnham (1379, p. 117) are getting forward with their drones on the wing by the first week in March. This must not always be taken as a sign of prosperity. Two years ago this spring I had one stock especially forward in breeding; quite early in March they seemed to be nearing the swarming point, when suddenly they ceased carrying pollen altogether. Upon opening the hive to find a reason for this, I discovered a queen-cell and a large quantity of drone brood. I at once concluded that they had lost their queen, but upon closer examination I found the old queen, apparently all right, at the back of the hive, with just a little fresh brood around her. In a few days numbers of drones were flying, and ultimately the young queen emerged from the cell and got successfully mated, and began laying the first week in April; and for several days the mother and daughter queens were laying in the same hive, so that I conclude that the bees will sometimes breed drones unusually early for the express purpose of fertilising a young queen they are about to rear. In this case the queen that was superseded was not twelve months old.—H. NEVE, *Warbleton, Heathfield, Sussex.*

EARLY DRONES.

[1394.] I forward a drone picked up by a neighbour in his apiary on March 26th. Though this is three weeks later than the case you report on p. 117, it is early for us, as drones usually make their first appearance here about the middle or end of April.

It it said that the celebrated apiarian, Bonner, was always so delighted at the first appearance of drones, that he made the day one of festivity and rejoicing for himself and his family. Mr. Cowan in his book says, "They are called into existence at the approach of the swarming season;" so, as they have already made their appearance in several parts, we may look for early swarms. But I heard of a second swarm issuing last year as late as the end of August, so if the virgin queens heading such swarms became drone-breeders through non-fertilisation, this may account for some of the early drones.

Spring flowers, willows, and palm are very plentiful in this district and there are about sixty stocks (fifty in frame hives) in the village, the whole of which have wintered well without the loss of a single stock.—THOS. HUGHES, *Combe, Woodstock, March 28th.*

NOTES FROM NORTHAMPTON.

BEE-STINGS AND RHEUMATIC GOUT.

[1395.] I have never before written a line to the *B.J.* for print, but as I don't see anything from my part of the county, I send a few notes of my doings.

I had twenty stocks last year at this time, and swarms brought the number up to forty by the end of season. A few swarms I sold at 10*s.* each. From one stock in a skep and its swarm I got eighty pounds of honey. In the autumn I joined several lots together in frame hives, so as to bring the number down to twenty-one, my present stock. After all were packed and provided for winter, I had 200 pounds of honey, so that, although it was not a good year, I was satisfied with the result of my little pets' labours. I looked inside my hives last Tuesday, and found the frame hives had plenty of stores, so I need not examine again for a month. The skeps I have given cakes of candy to each. All are taking in pollen very fast. I have a box-tree and a box-hedge, thirty yards long, which has one mass of bees on it: also a bed of "white rock," twelve feet long by three wide, on which they work from morn to night. I sow as bee-plants nasturtium, eschinops, wallflower, borage, mignonette, limnanthes, and candytuft; also Chapman's honey-plant, which makes a grand ornament in any garden where you have room. I have had about twenty plants, with thirty heads on each in full bloom for a month in autumn. It does one good to see how the bees enjoy it. If any friend would like some seeds, I will send them some on receipt of stamped envelope.

If not trespassing too much, I should like, maybe for some one's benefit, to give my experience of bee-stings and rheumatic gout. For nearly twenty years I have suffered terribly from this trouble. Apparently quite well at bed-time, I have, before morning, been completely prostrate, and obliged to keep my bed for two and three months at a time, afterwards being compelled to use crutches for a long time to get about with. Well, in June, 1890, a swarm of my bees settled in the box-hedge I have referred to. Not being able to shake them into a skep, as usual, owing to the swarm clustering among the branches, I tried to get the bees out with my hands. Anyway, after a deal of trouble, I hived them into the skep and set it on the ground. In a few minutes another hive swarmed and settled in the box-hedge, and this, too, was hived; but, as

I watched, I very soon perceived the second swarm beginning to leave its skep and join that first hived. Then, a few moments later, the two lots of bees began to fight among themselves, and, seeing this, I, without thought, lifted the first skep up to look underneath. As I did so the bees began to pour out, and began stinging me about the face and head. After carrying them twenty yards or so, I dropped the skep and bees. Brushing off my face as many of my assailants as I could, off I ran, followed by the angry bees. On reaching the house, I could hardly speak, and my alarmed housekeeper inquired what was the matter. "I've got stung; please pick out some stings from my face." Over fifty stings were removed from my face and hands. I thought I should have had to go to bed, but in an hour I felt much better, and was soon all right again.

Well, the *good* of the story is what I desire to convey to your readers, and that is, in the three years since the event above related happened, I have never had more than a very slight attack once or twice of my old enemy during the whole time. This is my experience of bee-stings and rheumatic gout.

Thanking you for your advice in the *Bee Journal*, which is a welcome messenger at my house (I have learnt all I know from it, and always look for it with pleasure)—GEORGE BREALEY, *Grendon, Northampton.*

Queries and Replies.

[747.] *Using Queen-excluders.*—1. Is it considered necessary to use a queen-excluder for supers? Some say yes, and some no. 2. Which do you consider the most saleable—extracted honey or honey in the comb? 3. Do you advocate sections or shallow frames? 4. If stocks have plenty of stores left from winter, I suppose it is not necessary to feed them, but to uncap the stores (sealed) occasionally?—R. HAMLYN-HARRIS.

REPLY.—1. In replying to querists our invariable advice is "Yes, when working for extracted honey;" but when sections are referred to, we qualify the "yes" by saying, "*personally* we *do*, but some experienced men *don't*." Thus, in effect, our advice on the latter point is "take your choice." What else can we say? *We* have taken our choice; sections have been spoiled for us, and our annoyance has been great: hence our decision. But when bee-keepers tell us they "have never had brood in a section yet, and have never used excluders," what can we say other than "don't use excluders till you *have* had them spoiled?" And so we repeat, "take your choice." 2. Everything depends on the district, or rather the demand. Some bee-keepers can only sell sections; others can't sell them, but can get rid of jars readily. The *safest* crop, however, to work for is extracted honey; it keeps for years, and does not deteriorate with time as comb honey does. 3. Shallow frames are our particular—shall we say—"fad." 4. That is so.

[748.] *Transferring Mis-shapen Combs.*—I shall feel greatly obliged if you will let me know what I had better do under the following circumstances. I have attempted keeping bees for the last three years, but unluckily lost them each successive winter till this winter. Last summer a strange swarm came and took possession of my hive in which I had attempted so many times to start bees. The hive at the time of the colonisation was not quite empty and had not been cleaned; it still contained a few frames with combs in them. Now, I suppose some of the junior members of my family must have meddled with the hive, as when I came to examine it at the beginning of the winter, I found that the frames were not all together, there being a space in the middle of them over which was laid a sheet of oilcloth, and the bees had filled up this space with combs of their own, attaching them to the oilcloth. I fed the bees well and carefully wintered them, but in order to do so found it necessary to nail the oilcloth in one or two places, as the combs, as the feeding progressed, were getting heavy. The bees I find are all well now, and I am at present feeding them, but as the spring is coming I want to know what I had better do, as I cannot manage them in their present condition. Do you think I could transfer the whole hive of bees into another hive, and, if so, ought I to do this before they swarm or afterwards? If I had better transfer, I do not know exactly how to proceed, as the combs are their own manufacture, and are not only attached to the oilcloth on top, but also fastened to the sides; neither are they square in shape, but are inclined to be oval and about the same size as they generally are in a straw skep.—NEWTON WADE, *Tydu House, near Newport, Mon.*

REPLY.—Our correspondent must pardon us for saying that his three years' experience of bee-keeping, as set forth above, makes us hesitate before advising him to undertake a task requiring either experience or a natural aptitude for the work, which we fear he does not possess. He should endeavour to get the help or the advice of some experienced bee-keeper who could personally inspect the combs, and either assist in setting matters straight, or advise as to the best means of undoing the mischief.

TRADE CATALOGUES RECEIVED.

GEO. NEIGHBOUR & SONS (*High Holborn, London, W.C.*).—Messrs. Neighbour *re*-issue their large and profusely illustrated list of last year with additional matter describing such novelties as the firm have since produced, including, as a matter of course, a "Wells" hive.

A. W. HARRISON (*Potter's Bar, Middlesex*).—We note that this catalogue has particulars of a few novelties not seen in any others received. A "Wells" hive is also included.

J. TREBBLE (*Romansleigh, South Molton*).—This list also has some novelties for 1893.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ALBERT P. JOLLYE (Long Stratton).—*Leaving Skep with Honey Exposed to Bees.*—1. Rather than leave the honey in a beeless skep to be "robbed" by the bees outside—"fifty yards away from the hives"—we would set it on the top of a frame hive and let the bees clear it out, while carefully preventing outsiders from having access thereto. 2. The plant sent is *Mercurialis perenis* (Dog's Mercury or Kentish Balsam.) Bees only get a little pollen from this plant.

F. J. ROBERTS (Edmonton).—*Bees Dead from Starvation.*—Bees sent have evidently been dead some time. Dead bees found in the cells head-foremost have usually perished from want. In the circumstances detailed, candy is not suitable food at this season. Warm syrup should be given at once. Don't smoke the bees to make them "gorge themselves every time."

A. J. W. (Newton Abbot).—*Transferring Combs and Brood.*—1. It was scarcely "wise" to transfer combs of brood in the open in March. The comb should have been taken into a warm room indoors while being operated on. 2. Since the "bees are very numerous and working well," you may safely give them a sheet of foundation in centre of brood nest at this season, but only give one sheet at a time and at intervals of a week. 3. The bees will remove the mildew mentioned. 4. Bees short of stores should be fed with syrup, *not* candy at this season. 5. Surplus chambers must not be given till honey is plentiful and bees numerous. 6. Drone combs may be used for storage purposes so long as the queen is kept away from them.

G. BREALEY (Northants).—1. There is no foul brood in comb sent, but it is black enough to want renewing. 2. Pollen-carrying in spring is almost a sure sign of breeding, though occasionally queenless lots carry in a little. 3. Very young bees are recognised by their being lighter in colour than adult ones. 4. Drones in spring are usually a sign of preparation for swarming, but form no data for fixing an exact day on which the swarm will issue. 5. Any stock not working like the others should be examined to find out the cause of its inactivity.

ANXIOUS ONE (Lewisham).—*Larva of Wax Moth Thrown Out.*—Very likely the bees have carried the grub out. If the stock is thriving and strong, as stated, no alarm need be felt.

F. G. AUSTEN (Wimbledon).—Bees sent are the ordinary natives. If the comb foundation is passed through warm water, or warmed before using, the mottled, powdery appearance will disappear.

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FOR SALE.—4 double-walled and 2 single-walled Hives; 2 double-walled Makeshift Hives; 20 Frames; 2 Smokers; 4 Simmins' Dry Sugar Feeders; 1 Self-Hiver; 3 Excluder Dummies. 65*s.* the lot. Will sell separately. Address W. & A. GEORGE, Interfield, near Malvern.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

Weather.—Though not so warm as at Eastertide, the weather still continues fine, especially during such hours of the day as bees are usually busiest. Nights, though cool, have not been frosty as they were for a good portion of last month, so that breeding is still going on vigorously, and in some southern counties honey is coming in well. No rain, however, has fallen, and "the driest March for many years" has been succeeded by a—so far—rainless April. But there is still plenty of time in which to verify the "forecast," printed in this column, that April was to be "a rather wet month"—in fact, present indications point to much-wanted rain, which will be very welcome to farmers, and beneficial to vegetation generally.

Dates for putting on Supers.—A correspondent reports having "already supered three of his stocks in consequence of the splendid weather," and we are also inquired of by several eager correspondents as to when they should put on supers. But we must recommend caution in such matters, in so far as it is necessary to take into account something beyond sun and warmth in determining dates for such operations. Brilliant sunshine and busy bees may not mean a plethora of income, nor are they perfectly sure signs that stocks are even safe against actual want. In some districts it is no doubt safe to say that, so long as the bees can get out, and there is warmth enough to secure the secretion of nectar in the abundance of bloom surrounding the apiary, bees need only such attention as providing storage-room. But there is all the difference in the world between localities with scores of acres of cherries, plums, gooseberries, and such-like in full bloom everywhere around—such as we have seen recently—and places remarkable for an entire absence of bee-forage at this season. These important factors in the case show how absolutely necessary it is for us to have some sort of knowledge of the honey resources of a district before we can give a reliable reply to such queries as are referred to.

The degree of "readiness" for supering may be safely judged by raising the quilt, and with a puff of smoke driving the bees down a little, to expose the upper portion of the combs. If these are being lengthened out with light-coloured wax, and if, in addition, the frames are all well covered with bees, the stock is ready for supering; but *dates*, as we have already said, are fixed less by the weather than by the amount of bee-forage about.

Self-Hivers.—The fact of a correspondent having written to ask that we will endeavour to "help on the question of perfecting that desired boon, an efficient self-hiver," coupled with the communication on self-hivers from Mr. W. Woodley, on p. 144, has suggested to us the appropriateness of inserting here a useful article on the same subject by a well-known American apiculturist, Mr. R. L. Taylor, who writes in the latest number of the *Bee-keepers' Review* as follows:—

"As an article to sell, what a great thing a self-hiver would be! To talk of bees hiving themselves is like real magic, not mere slight-of-hand; for without doubt bees can be made to hive themselves in a way. And herein is the danger. They are sure to be bought, and disappointment and loss are sure to follow—at least, until further improvements are made.

"I have been accustomed to look upon the struggles of the half-dozen inventions of self-hivers as a source of amusement, but when the editor of the *Review* goes so far as only to say, 'If self-hivers prove to be the success they promise to be,' I am a little startled and feel like inquiring where is there any promise? Not

in the fact that the queen can be trapped and some bees secured with her, surely. That is easy. But at this point the trouble begins.

"What do we want a hiver for? Not as a curiosity. It must be of some practical advantage. Unless it will pay for itself and some little more, it will be of no utility. It must effect a saving somewhere, either in time, money, care, or labour, without a counterbalancing loss in the same items or in the amount of surplus secured.

"The self-hiver has no standing at all unless at the very outset it practically secures the entire swarm every time. That it does even this, judging from what the inventors say of each other's device and the known perversity of bees in not conducting themselves as the apiarist thinks they ought to, is not yet by any means certain. But until it does this it must fall in competition with the queen-trap, which prevents the loss of swarms at much less expense, with the additional advantage that it more readily gives up the secret that a swarm has passed through it. But for the sake of the argument, let it be admitted that the hiver will do all that is claimed for it, and that it will practically secure the entire swarm every time, how does it stand then in comparison with the queen-trap?

"At the outset, the cost of the traps is perhaps but about one-twentieth of the cost of the hivers, for, of course, no one would think of using them where they are liable to be inhabited by bees for three or four days before discovery, without furnishing them each with a full set of combs or frames of foundation.

"The trap is adjusted in a moment perfectly, while the adjustment of two hives to the same level and to each other is a most critical operation—even so expert an apiarist as Dr. Miller let his queen get out; or if one hive is put on top of the other, difficulties actually insurmountable are encountered.

"If there has been swarming where traps are used, the apiarist, by walking rapidly along the rows of hives, discovers at a glance where it has been, but how is it with the hivers? Suppose you have an out-apiary of 150 colonies, you must raise at least 150 covers to determine where the swarming has occurred, or if the Pratt hiver—the one that seems to be in the lead—is used, you must lift 250 old *hives* with the supers, heavily laden, as they are likely to be, to determine from which hives swarms have issued, for the hiver is put under the old colony, and this every time the apiary is visited, if justice is done. The editor of *Gleanings* says of Pratt's tiering-up hiver: 'The lifting of the upper story is no great objection.' Whew! I feel exhausted at the very thought of it. And then suppose three, or four, or five swarms had come out at the same time and had united, as they would surely do if they were at all like mine, and had gone into one of the hives together, you would be sure the hiver was a great success, but you would be quite oblivious of the three or four queens hid away in the corners of as many other hives with a teaspoonful of bees each. The old queens being shut out of their hives and the young queens soon to be hatched being shut in, the colony is doomed to speedy destruction unless the sharp-eyed apiarist discovers that all is not right. With the trap there is no such risk or uncertainty.

"Again, in the absence of the apiarist, in the hives having traps whence swarms have issued, the storing in the supers has gone on without abatement, while in the hiver not only has nothing been stored in sections, but the brood chamber has in all probability been put into such shape that the bees will be loth to enter the sections when they are put on.

"Of course, if the hiver has caught the entire swarm, the rest of the manipulation necessary is not difficult, nor is it much more so to dispose of the colony with the trap. You have the queen, and you put the supers from the old hive upon the new, then set the old hive, without the bottom board, upon the uncovered sections, and drive the bees down with an abundance of smoke, leaving only enough to care for the brood, or sufficient bees may be shaken out of the old hive or from its frames in front of the new hive—not a difficult thing to do—far preferable to the task of adjusting two hives together on the same level so that the queen could not escape, to say nothing of three sets in that manner, which would be about the usual proportion here. And then with traps it is easy to adjust one to each of the two hives for a few days till the danger of the swarm forsaking its new quarters, or of an after-swarm coming from the old hive, is past; but if you used hivers, would you have a supply so as to adjust one to each of the hives, or would you take the chances?

"Then you have a large number of furnished hives to keep over the winter, dead capital, besides requiring for their safety, watchfulness and care.

"Another serious objection to all hivers yet suggested, is the fact that it is not an infrequent thing, in large apiaries, that young queens are reared by colonies without any intention of swarming, to replace queens that have become old or have met with accident, and when these undertake their wedding flight, they are caught in toils from which only accident is likely to relieve them, and their ruin means the ruin of the colony.

"Yes, as I said at our late State convention, self-hivers mean too much money, too much labour, too much loss, and too much risk."

Mr. Taylor's article presents the other side of the case, as viewed from an American standpoint, and differs considerably from that of the one referred to by Mr. Woodley, so that those of our readers who may be desirous of discussing the matter will, after reading both sides, be furnished with the *pros* and *cons* necessary for a full appreciation of it.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of March, 1893, was 1086*l*.— *From a return furnished by the Statistical Office, H. M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return ejected communications

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

SYRUP, ET CETERA!

[1396.] Many thanks, friend "X-Tractor," for the very kind remarks in your "In the Hut" (1347). Well, it's not exactly my fault that I have been for some little time like the proverbial poems "enclosed in a nutshell." The nut-crackers have been used, the shell falls to pieces, and the kernel is brought forth, perhaps better for its sojourn in darkness; if not, let us hope no worse. Now to business. Yes, I have weighed your words. Those self-same words have been in my mental scales for over three years, and at last have failed in the balance. It is scarcely necessary for me to supplement your remarks anent the inversion of cane sugar, as that is well known, I think, to all having but a cursory knowledge of the chemistry of the hive (I leave you out of the "cursory" crowd). The inversion must take place, but the question remains: Is it better for the bees or the bee-keeper to do this?

Naturally it is the bees' duty; in fact, the bees can't very well help doing it if they—as they do in carrying the syrup from the feeder—swallow the syrup. Your argument that "it saves them a lot of salivary trouble" is theoretically correct, but I have argued within myself is this not counterbalanced by the ease with which the bees can take the syrup when made after my recipe, as also the minimum of trouble to the bee-keeper, and the risk one runs of the granulation that takes place whenever the syrup is boiled? The latter is not exceptional, as all bee-keepers are greatly troubled by this action on the part of the syrup. Now, the bee must take the syrup into its honey-sac, no matter whether the sugar has been inverted or not. Is it an assistance to the bee to invert the sugar? If so, one would naturally think that nectar would be so provided by Nature. Again, if it is better to give such assistance to the bees' salivary organs, ought it not also to be equally an assistance to a healthy man, as you or I, to take pepsine with all our food? It is almost (not quite, you'll say) analogous. Is it a satisfactory condition of things to provide a healthy animal with all its food artificially treated with stomato-gastric secretions? I think not. Why, in course of time, the organs for providing same would become rudimentary, and often disappear altogether; then we might raise our voices and cry, "Has the queen's sting been an ovipositor?"

Well, the foregoing is just theory. I have tried this syrup for three seasons. I have recommended it largely. It has been used "muchly," and the bees have in all cases wintered safely.

Now with regard to the inverting process. Well, I'm just a bit at fault here, as, putting it plainly, I don't know, and so for a week or so must depend upon theory. Now, the authorities give a very different method of inverting cane sugar than the addition of a spoonful of vinegar to five pounds of sugar, and boiling, and in my humble opinion it would not be sufficient to very materially affect either the formula or polarity. I have not a polariscope, but have unearthed one at a gentleman's house, and am, with his assistance, going to try what difference it makes in the polarity one evening when I am at liberty.

Now for letter No. 1373. Pray, Mr. Wood, do not think I am the least bit offended at your remarks; I really didn't mean anything practical anent "hurling at one's head"—it was purely a figure of speech. Shake hands.

Artificial Pollen Feeding in Hives.—I am deeply grateful for "E. B.'s" suggestion that I should "fit up a hive or box with three *bars*" (of course, he means combs), "and spread the flour on both sides of the middle *frame*" (comb again, I suppose), when "the bees will carry it off in glistening loads." Yes, they will; but does it not strike you, "E. B.," that yours is identically the artificial pollen feeding *out* of the hive that I advocate, but instead of using chopped straw or shavings you use combs? Now "own up," "E. B." Isn't mine the cheapest way? Every one hasn't got spare combs, or, for the matter of that, spare hives. My argument (1352) was (read it again, "E. B.") that it is better to feed from a box (a hive *without* bees is but a box) than in a *hive;* which means, if you read all my letter, a hive tenanted by bees.—W. B. Webster.

ENEMIES OF BEES—DRIVEN BEES IN TWIN HIVES, ETC.

[1397.] I have never seen it stated in your *Journal*, or observed it myself before, that woodpeckers are destructive to hives. To my surprise, on examining my hives at the end at the last bad weather, I found that the slides of the entrance, and also the wood of the front

wall, of seven or eight hives (an inch thick) had been more or less destroyed, looking as if it had been chipped away with a blunt chisel. I expect the bird, being short of food, was attracted by seeing dead bees just within the entrance, between the front wall and the dummy.

Early Drones.—On February 19th, while standing near one of my hives, I was surprised to see several drones leave and enter hive. This led me to suppose the hive queenless, but, on examining, I found it full of bees, two combs containing worker brood, and eggs—in fact, a strong stock, covering nine standard combs. I examined this stock again on March 24th, and found the bees had increased in strength, there being five combs of eggs, worker and drone brood sealed, and also a sealed queen-cell with some honey. This appears to me to be extremely early. I have found sealed drone brood in one or two more of my twenty-one stocks.

Fuel for Smoker.—I find a strip from an old thick sack answer better than anything else. It will keep alight longer, give plenty of pungent smoke, and is less likely to go out than any of the many kinds of fuel I have tried; is also cheap.

Dummies.—The indiarubber tubing used for making doors draught-proof is very useful in making dummies fit close and warm, if tacked on the edges of the dummies; they can easily be removed, and yet allow of the expansion of the wood from damp.

Driven Bees in Twin Hives.—My experience has taught me that single lots of driven bees, if wintered in a twin or "Wells" hive, come out just as strong in the spring as stocks made up of from two to four lots. I have two stocks of driven bees in a twin hive, and one in an ordinary hive, all with an equal quantity of food and number of combs. It certainly is remarkable how much stronger those in the twin hive are at the present time. I should be glad of your opinion concerning early drones.—HAROLD ADCOCK, M.R.C.S., &c., *Uppingham.*

[The only inference to be drawn from the early appearance of drones is, that bees will probably swarm very early this year.—EDS.]

SELF-HIVERS.

[1398.] The *Bee-keepers' Review* (American) for March is devoted principally to self-hivers. Mr. E. L. Pratt gives a lucid description of his own make of self-hivers. (I myself think his present form a great advance on his last year's style.) Mr. Pratt is enthusiastic on the manifold advantages of the appliance, which he thinks will soon be one of the indispensables in the apiary; he says, in fact, the self-hiver will be the cure-all of the ills of bee-keeping. The Pratt hiver is made of the size of a tiering hive; the entrance to the hive is through the edge of the hiver. Thus the stock hive is placed on the top of the hiver, and the hive to receive the swarm is placed on the stand under the hiver. The entrance of stock hive is thus raised one story, and a long sloping board should be raised to the entrance. This will prevent any confusion to the returning workers when the swarm-receiving hive is put in place.

After the hiver is fixed, the side of the hiver opens in two parts; say, a strip of wood an inch square forms the opening side, with a piece of excluder zinc both top and bottom, the inch strip is sawn through at the centre, and a wire pin or nail driven through the strip at or near each end allows the two parts of strip to open like folding doors, and when open the bees pass in between the two pieces of excluder up into the stock hive through the excluder before swarming, and after swarming the bees pass down through the bottom or lower piece of excluder into the hive below, where the queen is. Oh, say you, how did the queen get there? The back part of the hiver, which is made hollow, has a long slot cut away, and the under side of slot is covered with excluder zinc, brought to an apex or point just behind the piece of excluder that covers the entrance to both hives, the stock hive and the swarm hive. The swarm issues, the queen rushes to the entrance to take flight, when she finds she cannot pass the excluder; but just behind is the inviting slot with excluder as before. Only at one point is there a way of escape for her majesty, and as it points to the light of the entrance of the hive she passes into the hive below, only to find herself still a prisoner, with faint chance of any return even to the hive above. The swarm on the wing locates on some tree, cannot find the queen, returns to the entrance, and soon discovers her whereabouts in the hive below. Here they have plenty of room for the establishment of a new home, and the bees set to work in good earnest to accomplish the task. The queen-cells above may mature, and the survivor may be allowed to mate, or the stock hive may be removed to another position, and the supers given to the new swarm to complete, or it may be allowed to remain and form a two-queen colony.

Mr. Pratt says that a swarm thus located is safe if even a week of bad bee-weather follow swarming, as they have the stores in brood nest above to go to in case of scarcity below, and that they continue comb-building. These are special advantages to the apiarist whose bees are a distance from home or in the care of some careless friend. The hives on which the self-hivers can be used to advantage should be of the tiering type and without plinths or fillets to cover the joints—simply plain box joints. Of course the plinths could be cut out of the way on the side to make an entrance if required in the swarm-receiving hive; but if the swarm were intended to remain, the entrance at bottom would not be required. Of course, the entrance at bottom would be closed altogether, or covered with excluder zinc until after the new swarm was established. The Pratt style of self-hiver proved a great success in the hands of Mr. E. R. Root, junior Editor of *Gleanings*. He says in an essay on "Self-hivers" read before the North American

Bee-keepers' Convention at Washington: "We rigged up some ten to fifteen hives with self-hivers on the Pratt principle and there was not a single failure. The colonies were not only automatically hived in every case, but they went to work in their new quarters, building comb, storing honey just as they would if they had been hived in the old-fashioned way and placed in a new location. Some were left to see the final result and they stored to the tune of fifty or sixty pounds, and one in particular to the phenomenal amount of 150 pounds." Mr. Root thinks it will take another season or two before it will be definitely decided if the self-hiver will be successful in the hands of bee-keepers generally.

Now, friends, I have written above *résumé* on the hiver to raise a discussion on a practical appliance. Please point out the weak points. Could our editors give us a drawing of the Pratt hiver as shown in *Gleanings* and *Review?* This would help our brethren to understand my explanation, criticise freely and without favour; but don't think, friends, that criticism will kill it. If it is knocked into a cocked hat or into smithereens, depend it will rise phœnix-like from its own ashes: 'tis like the "super-clearer," come to stay.—W. Woodley, *World's End, Newbury.*

A MANY-QUEENED HIVE.

[1399.] In replying to "E. B." (1365, p. 99), who asks for a description of my "many-queened hive," first let me say how much I would have preferred to see his full name, instead of initials. Well, then, in describing the hive which I exhibited at the Windsor Show in 1889, it has a floor-board with flight-board all round; a flight-hole is cut on each side, as with bees having the same odour I have invariably found a difficulty in keeping them from uniting; but, if the entrances are kept as far apart as possible, this difficulty is overcome. The divisions between the frames which I use are made either partly or wholly of perforated zinc (forty-five perforations to the inch). In the former case I use a thin quarter-inch board, and cut a hole six inches by three inches within one and a half inches of the top, then cover this with the zinc. When using a whole sheet of zinc, I make a saw-kerf on either side of the inner wall of hive and slide the sheet of zinc down these. I find that with too few the bees will propolise them up, but not when a larger number is used. The tops of divisions are, of course, kept level with top bars. I may be asked why the bees give up their old entrance, and take to using one side only, when allowed to run together in surplus chambers. I have, however, always found that whichever side a bee has been accustomed to, it keeps to that side and uses no other. I notice that most of the hives made for use on the "Wells" system have the entrances at front only. In my opinion, we shall hear of more failures than successes this year on this account, and I would advise all amateurs not to start with more than one hive of this kind. As to the difficulty suggested by "E. B." in placing combs of brood from both queens next to perforated dividers "without exciting the bees to murder," he will not find such excitement last more than half an hour, and then the bees will settle down. As to joining weak and strong stocks, I always try to keep the stocks as nearly even in strength as I can to start with, and when once established, he will find they will keep so—of course, barring death of queen or other causes of a similar character.

The above is a rough description of Perry's Many-queened Hive and the mode of using same. If there is anything which "E. B." or any one else cannot understand, I will try and make it clear, but I wish your correspondents would gives their names in full.—John Perry, *Banbury, March 27th.*

[Our correspondent begins and ends his letter with a complaint against the use of initials only instead of full names, but we see no reason for such complaint. If controversial matter was being dealt with, or reflections of a personal character had been introduced, it might be different; but in the case referred to there can be no valid objection to correspondents using either initials or a *nom de plume* if they do not wish their names to appear.—Eds.]

REMARKABLE INCREASE OF STOCKS IN STRAW SKEPS.

[1400.] A friend of mine having bought two stocks in skeps of an old lady in this parish, I went last evening to fetch them for him. Whilst removing bees from their old stands I had quite a long chat with her about her method of bee-keeping. She said that her son commenced bee-keeping with two stocks in skeps, bought twenty years ago of a neighbour. These stocks were bought in February, 1873, and in May of the same year a swarm and a cast issued from each. Two months later each of these first swarms threw off a swarm and a cast. These were all hived in empty skeps, no food given them until the winter, when a little common moist sugar, mixed with home-made wine, was given to them in a trough made of elder in the usual old-fashioned way. At the end of the season there was a grand total of ten hives. These all wintered well. In 1874 these ten hives increased to twenty-eight. Not a bad profit on two stocks in two years. What say you, my fellow bee-keepers? When one considers the *un*-scientific plan of treatment employed, bee-keeping of years gone by appears to have been more profitable than that of the present day, although we have so many more appliances. Skeps fourteen inches by ten were the only hives used; swarms never fed, nor bees driven; but when honey was wanted the bees were ruthlessly condemned to the inhumane sulphur pit.

Upon my saying, "I suppose you never *dressed* the hives?" she immediately replied with em-

phasis, "Oh, yes, I always did, for if I had not done so the bees would not have stayed in them! I used *stale beer* and——" something still more objectionable, which I refrain from mentioning. Poor bees! thought I, what a sweet (?) home! I asked if she ever had foul brood in any of her hives. She said she did not know what I meant. I explained to her, but she replied that "during the whole twenty years she had not lost one stock of bees from death in the camp," although she had more than once got up in the morning and found some swarms recently hived conspicuous by their absence, skep and floor-board included.

As it was now getting dark I was forced to say good night to this very amiable old lady, having thoroughly enjoyed our little gossip. I was agreeably surprised when I found there was not a single dead bee upon either of the two floor-boards when I removed the skeps, but there was a thick layer of *débris*. This is easily accounted for when you take into consideration the fact that the skep had not been disturbed since the swarms were hived in 1891. Happy to say I got the skeps fixed upon their new stands, the little occupants humming merrily the while, without the loss of a single bee. Unfortunately the new home of the bees is within a two-mile radius, so, to prevent as far as possible a loss of bees by their returning to their old site, I altered the appearance of the skeps as much as possible by doing away with the hackles, putting sacks and pieces of carpet in their place. I also placed a piece of Austrian pine immediately in front of entrance to the skep, so than when the bees took their first fresh flight from their new quarters, they could not fail to observe the newness of the surroundings, and so mark their new home. I trust my friend will be successful in his new venture.—PERCY LEIGH, *Beemount, Stoke Prior, March 11th.*

[If increase of stocks alone were desired, and honey was of no consequence, no doubt the plan told of by the old lady might be a good one, but it has nothing to commend it beyond that, and however it may recommend itself to the "skeppist," such a plan of management has no charm for the modern bee-keeper. Moreover—and with reference to our correspondent's observation about such bee-keeping being "more profitable than that of the present day"—if a bee-keeper of the skeppist school is told of the honey results obtained by modern methods, he not seldom closes any discussion which may take place by some such polite remark as "That's a lie!" Anyway, and in order to afford our correspondent a comforting experience on the other side of the question, we give particulars of a very similar incident in our own experience as follows: An old acquaintance of the skeppist school (a farm labourer), in the very year above referred to (1874), increased by natural swarming from three skeps to thirteen, and the same autumn offered us the bees of ten of these for the trouble of "driving," as he never wintered more than three hives. Being in want of some bees in skeps at the time, and knowing he was not rich, we offered the old man between six and seven pounds for his ten surplus stocks just as they stood. The sum named seemed to startle our old friend, and so, notwithstanding his superstitious dislike to selling bees, he asked for a day or two to "think it over." Eventually, and apparently with sorrowful heart, he declined the money, solely because he was "sartin' it wouldn't do him a bit o' good, seein' as *bees won't stand bein' sold.*" So much for superstition; but the point of the story lies in what *our* old lady—the wife of the cottager—afterwards observed to the writer. "Why," she said, "you've bin' an' offered our James more money for them bees than he's made out of all the honey he's gotten for the last twenty years!" Judging by this, increase did not mean profit.—EDS.]

TWO QUEENS IN ONE HIVE.

[1401.] Most of my stocks that are worked for extracted honey hold ten frames, and during the honey season are tiered with one or two extra boxes. In autumn, when preparing for winter, I lift the bottom box and put another containing empty combs underneath, and find the bees winter well in that form. During April, if weather is favourable, I take away the bottom box to get them into close quarters for brood-rearing. On the 3rd inst. I took off the top box of one stock, and found it strong in bees and plenty of brood, with a queen showing age by her jagged wings. The bottom box which I intended to remove was also strong in bees and contained a young queen. There was no excluder zinc or anything to keep the two queens separate. Both queens had been in that hive since the 1st of last September.

On the 13th of August last the stock was queenless, when I put another stock to it containing an over-year queen. On the 1st of September I could neither find queen nor brood, so I ran in a young queen (I never use a cage). The bees were packed for winter shortly after, and remained thus until last Monday, when I found the two queens one on each set of frames. As I had a "Wells" hive ready for use I put one lot in each compartment, and they appear to be working all right.—L. WREN, *Lowestoft.*

Echoes from the Hives.

Engheim, Alsace, March 18th.—On the 16th March we had 59 degrees Fahrenheit of heat, and bees flew out in great glee. To-day it has been snowing nearly all day. Our Vosges mountains and the Black Forest are completely covered with snow. I have wintered thirty hives, which appear in very good condition, except one queenless, which I have united to its neighbour. I got 1700 lbs. (1874 lbs. English) of honey from twenty-eight hives.—J. DENNLER.

Potsdam, March 20th.—We are here at the present moment buried in deep snow, after continuous snowstorms, with thunder, on the 17th, 18th, and 19th. I do not remember such storms before. Up to now our bees have wintered well. —C. H. J. GRAVENHORST.

Denton, Lincs., March 27th.—We have had some remarkably fine and hot weather here the last two or three weeks, the glass going up to 90°, 95°, and 98° in the sun; shade temperature 60°. Casting off winter apparel, shirt-sleeves rolled up, and straw hats when at work, has become the order of the day. The night temperature during the same period has been equally surprising in the other direction, 15°, 18°, and 20° of frost having been registered. Last night (26th) it went down to 19° Fahr., but, as the trees and ground were dry, no damage was done. Bees doing splendidly; drone brood capped, and stocks very strong. Gooseberry, plum, and arabis in bloom, and everything promising well for a forward season.—J. W. BLANKLEY.

Beemount, Stoke Prior, March 27th.—In my "Echo" of March 17th, I was complaining of the wind and snow, but what a change since then! On the 22nd, 23rd, and 24th, the thermometer registered 63° in the shade, but the minimum for the same days was 28°. These frosts are, I consider, of great value; they prevent the fruit-bloom getting too forward. Gooseberries are in nearly full blossom, and where these bushes are planted in their thousands, you may guess how they are visited by the bees. I do not remember having seen so much pollen taken in at one time as on the 26th. Butterflies abound. The cuckoo is said to have been heard in this neighbourhood last week. Should the meteorological forecast published in the *B. B. J.* a few weeks ago prove correct, how the hearts of all bee-keepers will rejoice!—PERCY LEIGH.

Warbleton, Heathfield, Sussex, March 27th.—The bees are just now having quite a little summer; mine have come out this spring stronger and better than ever—not one queenless lot so far. The willow honey is just rolling into the hives; last year I had the pleasure of getting a few sections filled with it; haven't any on this year. The roaring from the hives and the strong, sweet smell in the evening, seem much more like June than March—but we may have some snow yet!—H. NEVE.

Somersham, Hunts, April 1st, 1893.—Bee-keepers about here are in high spirits, as stocks are strong and unusually forward. Our honey-flow closes early, consequently most stocks, through not being fed, go into winter quarters with a good proportion of old bees. Last season, however, we were, as I stated in my letter on the "Ivo" cottager hive, particularly fortunate, as we had a late supply of food from a small crop of buckwheat close by. Breeding was consequently kept on, and we now see the benefit in our prosperous colonies. The bees are now revelling in orchard bloom, which around us is very extensive, and honey is coming in fast.—C. N. WHITE.

Great Witley, Stourport, April 1st, 1893.—In looking over my hives yesterday for first time this season, I was agreeably surprised to find brood in all stages, and a large quantity of young bees, also a nice lot of new honey, some nicely sealed. In one hive a whole frame was filled and capped. Have wintered six out of seven stocks. The orchards are almost in full bloom. Bees very busy indeed.—E. W.

Haltwhistle, Northumberland, April 4th, 1893. —I had intended sending an "Echo" during the autumn, or at the close of the heather season, but other matters prevented my doing so. Well, winter's requiem is sung, and spring is once more here, with summer on the wing. In our immediate locality bees seem to have come through the winter fairly well—mortality very small, and any stocks I have seen are in good condition, my own included. We have had splendid weather this last three weeks; the days have been warm, bright, and sunny, with high temperature, but nights cold, with some keen frosts. Some veteran bee-keepers say they never remember such an open season. No need this time to supply artificial pollen—plenty from nature's storeroom. I found a thrush's nest to-day (April 4th) in a whin-bush, with two eggs. I hope we may fully realise the weather as predicted in chart of a recent issue.—JOHN ARMSTRONG.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

March, 1893.

Rainfall, ·60 in.	Sunshine, 232·10 hrs.
Heaviest fall, ·19 on 1st.	Brightest day, 31st, 11·65 hrs.
Rain fell on 7 days.	Sunless days, 2.
Below average, 1·66 in.	Above aver., 101·6 hrs.
Max. temp., 61° on 25th.	Mean max., 52·9°.
	Mean min., 33·1°.
Min. temp., 23° on 19th.	Mean temp., 42·5°.
Min. on grass, 17° on 19th.	Max. barometer, 30·53 on 25th.
Frosty nights, 9.	Min. barometer, 29·70 on 1st.

L. B. BIRKETT.

Queries and Replies.

[749.] *Transferring Bees from an Ordinary Box into a Frame Hive.*—A friend of mine having bought a strong stock of bees in an ordinary wooden box, 19 × 14 × 9 inches, is anxious to get it into a hive of fifteen frames as soon as possible. Upon asking me what he had better do, I told him that I thought if he were to place the box containing the stock

immediately over the frames in hive, the queen would, sooner or later, commence breeding in the hive proper, and the whole of the bees would vacate their old habitation, and occupy their new quarters, and so the desired transfer would be effected. Kindly inform us if my supposition is correct. If it is not, kindly advise us what to do, for your counsel is always valued and acted upon. I ought to add that there are no frames in the box, but seven seams of comb thickly covered with bees.—PERCY LEIGH, *Beemount, Stoke Prior.*

REPLY.—If the frame hive is prepared with *full sheets* of foundation, the plan proposed will work out all right, otherwise a superabundance of drone comb would be built in the lower hive.

[750.] *Dividing Stocks for Double-queening on the "Wells" System.*—I write on behalf of a working gardener, to inquire if it would be advisable to divide a strong lot of bees and give another queen, so as to make a double-queened hive, and work on the Wells system? The hive they are in will hold eighteen or twenty frames, and as they are a very strong lot, a swarm having been joined to them in the autumn, we think the bees might safely be divided and an extra queen given. I may say we have some knowledge of introducing queens and know where to get one if you think the plan feasible. I should have said he wants it done as soon as possible. We have had very warm days here for three weeks, with the exception of last Monday, which was quite cold and chilly. The bees are working on willows and such flowers as they can get. The fruit trees and bushes are just beginning to bloom.—DAVID MCLEISH, *Alyth, Perthshire, March 30th.*

REPLY.—If that portion of the bees separated from the parent queen could be induced to consider themselves queenless and would accept the strange queen offered them, all might go on well; but we fear they would rather prefer to kill the stranger and return to the other side of the perforated divider where the old queen was. If, however, our correspondent has a spare queen on hand and likes to try the experiment, we shall be very pleased to have the result for publication.

[751.] 1. I find one of my stocks has lost its queen, and I presume has a fertile worker, as one of the frames has drone brood on both sides, some being already hatched. If I unite them to another stock, would the worker continue to lay? If so, I suppose I had better destroy the lot. 2. You kindly gave me some advice on March 23rd, *re* number of frames in a hive. I have nine and a division-board, and should like to know if I can safely exchange the division-board for another frame, using wired foundation to keep it straight as the division-board?—F. HOWELL, *Poole, Dorset.*

REPLY.—1. If the bees are successfully united to a normal colony the fertile worker will soon cease laying. 2. Yes.

[752.] *Transporting Hives by Rail.*—I propose transporting several stocks of bees some distance by rail at the end of April or beginning of May, and should be glad if you will mention any precautions to be taken, and wish for answers to the following questions:—1. What is the best method of packing hives so that bees may be securely imprisoned, and of fixing combs? 2. Is it better to unite two or three stocks together before moving, so as to reduce the number?—H. C., *Cirencester, April 7th.*

REPLY.—1. Remove all coverings to frames, and substitute a single thickness of coarse canvas. Screw a strip of wood across tops of frames at each end to keep them rigid and firmly fixed on the journey. Open entrances to full width, and confine the bees by covering the openings with perforated zinc. 2. By no means. Let them travel singly.

[753.] *Loss of Queen in Spring.*—I opened a frame hive on March 31st, and found eight or nine queen-cells sealed, also a little drone brood sealed. I opened the hive again on April 2nd, and found all the queens gone, some had hatched out properly, others had their sides torn open. I cannot see any young queen, but I notice a peculiar smell coming from the hive; there is no brood. The bees have worked well all the last month, but have carried no pollen in. The stock is made from the driven skeps last year which had swarmed. Kindly give me your advice in the matter.—ED. SLATER.

REPLY.—Some accident has, no doubt, happened to the old queen about a fortnight prior to the 2nd. If the hive was disturbed or awkwardly handled so as to excite the bees about that date, they may have "balled" and killed the queen in consequence. Anyway there is nothing for it but waiting to see if the young queen is safely fertilised if there at all, as we fancy she is.

REVIEW OF CONTINENTAL BEE JOURNALS.

BY J. DENNLER.

L'Apiculteur Alsacien - Lorrain. Editors, Dennler and Zwilling.—*Two New Inventions.*—M. P. Warnstorf, of Buslar, has just constructed a press for making comb foundation with cells of full depth, and M. Kanitz, editor of the *Prussian Bee Journal*, uses appliances to prevent bees from leaving their hives in unsuitable weather, and for preventing robbing. It remains to be demonstrated whether these inventions will prove successful.

Method of Determining whether Comb Foundation contains Mineral Wax.—Melt a piece of foundation in a basin, without, however, overheating it. In a second basin dissolve a piece

of soda, about the size of a filbert, in two spoonfuls of hot water. The two are then mixed together. If the foundation consists only of pure wax, complete saponification results, and a white mass is produced; if, on the other hand, the comb foundation contains ceresine, this floats on the top as an oily liquid. Ceresine does not saponify with soda.

A Melliferous Honeysuckle is that from Tartary. This is a charming, erect, deciduous shrub, with cordate-ovate pale green leaves, covered in the spring with pretty rose-coloured flowers. The branches are white during the winter. The botanical name is *Lonicera tatarica Linn.*

Report of the Year 1892.—The year 1892 was a good one for most of the bee-keepers in Alsace, but it was not so good in Lorraine, where the drought stopped nearly all the sources of honey. The honey-flow ceased in the plains from the middle of July. On the other hand, honey-dew commenced in the Vosges at the end of June, and lasted, with scarcely any interruption, to the middle of September. The honey-dew of the pines was so abundant, that the hives were filled from the first days of its appearance. M. Vierling, schoolmaster at Niederhaslach, and a bee-keeper of the first class, got from twenty-eight hives 48 cwt. of honey, which is an average of 190 English pounds per hive. One hive gave from June 16th to August 28th 385 English pounds of honey. This hive contained fourteen frames in the brood chamber of the Bastian type, and had a super on it of twelve frames of the same size; besides, it had a second super above, fitted with twelve frames slightly smaller than the Bastian frame. To prevent the population from dwindling in this heavy honey-flow, during which time the mortality was very great, M. Vierling took the precaution from time to time to remove combs filled with honey in the brood chamber, and to replace them with frames of foundation, which enabled the bees to build comb, and gave room for egg-laying and the rearing of brood. M. Kuntz, of Hohwald, president of the section, got 3800 pounds (4188 English pounds) of honey from forty-eight hives, of which eight large hives gave 180 to 210 pounds (198 to 231 English pounds).

Revue Internationale d'Apiculture. Editor, Ed. Bertrand.—Does bee-keeping in movable-frame hives produce wax? M. Ch. Dadant criticises the method of M. Vignole, and says:—"His method requires so much work, so much attention and exactitude to perform the operations at the proper time, that I doubt if he ever kept more than 100 colonies of bees, even if he ever reached this number. However, with our hives and our methods, a man with very little help at certain seasons of the year can easily manage 400 hives, or even more. Our honey harvest exceeds 21,000 pounds (English) or 9500 kilos—that is to say, we obtain 8000 kilos more than M. Vignole with about the same labour. (M. Ch. Dadant had said previously that M. Vignole boasts of his improvements by his method, which gave him for 100 hives 1500 kilos of honey and 100 kilos of wax.)

"As for the wax, I have many times weighed what we get from the cappings of the extracted combs, and I have always found one kilo of wax for 100 kilos of honey extracted. Thus the 9500 kilos of honey give annually 95 kilos of wax, about the same that M. Vignole obtains, with this difference, that the wax from the cappings, never having been soiled by the excrements of the bees, is hardly coloured, and far superior to that which M. Vignole obtains. Therefore, not only is our extracted honey better than his run honey, but our wax is superior to his in quality."

(To be continued.)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

L. M. (Herts).—1. A pound of candy will carry the bees over the fortnight. 2. Wetting the hands will not prevent stinging. 3. When thick cotton gloves are worn they are usually wetted beforehand. 4. Naphthaline or camphor used about quilts to keep moths away will not affect the honey.

J. M. W. (Westfield).—Comb sent is affected with foul brood. The hive from which the bees have "deserted" should be at once closed up, the combs being burnt, and the hive thoroughly disinfected before using it again. Naphthaline should also be used in the other hives as a preventive of contagion, for it is probable the deserted hive may have been pillaged.

APIARIST.—One of the best coverings for frames to go over the American cloth is grey felt *under carpeting.* Any appliance dealer will supply it.

A. E. U. (Cappoquin).—Foundation is a bit "stale" through having been made a long time, but it will be all right if passed through warm water before using.

J. E. (Llanengan).—1. The bees sent from nucleus are Carniolan hybrids. The samples of Ligurians are well marked and may be from a pure queen. The fact of a few bees being in the hive without the yellow bands goes for very little. They are not the progeny of the Ligurian queen at all, but "emigrants" from other hives.

BEGINNER (Stonehouse).—*Preventing Robbing.*—1. If the carbolic cloth and narrowed doorway will not stop the mischief, all feeding

must be given up except a little after dusk, and on no account should the robbed hives have their frames uncovered. 2. No; to move the hives to another part of the garden would do more harm than good. 3. Under the circumstances, "spreading brood" would be a most mischievous proceeding.

J. Mossop (St. Bees).—Queen sent has evidently not been fertilised.

D. A. D. (Hastings).—No doubt essence of cinnamon is a valuable antiseptic, but not more so than naphthaline; while in cost and simplicity of application the latter is far preferable. It has been proved that the spores of foul brood cannot germinate or multiply where naphthaline is present in the cultivating medium, and nothing beyond this is claimed for the remedy you name.

F. F. (Clapham).—Felt, as sample sent, may be used for roofs without any disadvantage to the bees.

Thos. Newcastle (Honolulu, Hawaiian Island)—Though your letter is dated so long back as January 16th, the promised samples of Hawaiian honey have not yet reached us. Meantime, is it not an error on your part to say that your average price of six cents per pound is "equal, I think, to about *sixpence in English money?*" Is the cent in your part of the world equal in value to our penny? If it is, we can only say that sixpence per pound in Hawaii is a far better price than you could hope to net from honey sent to this country, after paying cost of shipment and porterage.

H. R. C. (Carnarvon).—1. The comb contains not foul, but "chilled" brood, and that being so, there is no occasion to examine the other stocks to see if the bees are diseased. If food is short, you do quite right to give syrup.

Young Hand (Derby).—Bees sent are hybrid Carniolans.

Reader of *B. J.* (Kingswinford).—*When to put on Supers.*—The "proper time for putting supers on hives" is: 1. When the bees fairly well occupy the whole of the frames. 2. When weather is fine, and honey is coming in. 3. When the cells on upper portions of combs are seen to be lengthened out by the bees with light-coloured wax.

C. M. R.—*Bees Deserting Nucleus Hive.*—The small amount of brood in nucleus is, we think, entirely attributable to the few bees left with the queen, not to loss of fecundity on her part.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES AND QUEENS.— Choice Ligurian, Carniolan, and English Stocks, Swarms, and Queens. Prices on application. Address C. T. Overton, Crawley, Sussex.

BEE SEEDS recommended by Bee-keepers, guaranteed best sorts, 13 large Packets, 1s., post free. Address J. Bennett, Bee-keeper, Seedsman, and Florist, 178 Spon Street, Coventry.

STRONG Healthy Swarms of English Bees, ready first week in May. Foul brood unknown in my Apiary. Expert declares county free. Orders booked now, executed in rotation. Address Edward Gibbins, Neath, Glamorganshire. 3

THE English Rose Bar-frame Hive. Orders addressed to J. Sellers, Swanland, near Brough, Yorks. Price List on application.

SECTIONS, one pound each, wanted, Clover or Heather; crop 1892. Must be good clear Honey, and well filled. Apply or address Mr. Leitch, 208 St. George's Road, Glasgow.

FOR SALE. — 4 double-walled and 2 single-walled Hives; 2 double-walled Makeshift Hives; 20 Frames; 2 Smokers; 4 Simmins' Dry Sugar Feeders; 1 Self-Hiver; 3 Excluder Dummies. 65s. the lot. Will sell separately. Address W. & A. George, Interfield, near Malvern.

TWO ENGLISH HIVES (*Vide B. B. J.* 6th Aug. '91), new last year, complete, with Supers, &c.; one containing strong Stock of Bees, 1892 Queen. Price £2 5s. Address J. Jones, Brimsdown, Enfield Highway, Middlesex.

STRONG HEALTHY SWARMS for Sale, 10s. 6d. each. Orders taken in rotation Address E. Long, Cottenham, Cambs. 8

FOR SALE.—90 lbs. of Pure Clover Honey at 6½d. per lb. Address Pomery, Trethem, St. Mawes. 2

MAY SWARMS, 12s. 6d., young Queens, from perfectly healthy Stocks. Address Rose, Feltham.

FOR SALE.—Five Stocks of Bees in Straw Skeps. What offers? Address Gay, Edmondsham, Cranborne, Salisbury.

FOR SALE.— Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. Bereton, Pulborough, Sussex. f. n.

FOR SALE.—Strong healthy Swarms of English Bees, ready in May, 12s. 6d. each, box included. Address Edward Gibbins, Neath. 4

FOR SALE.—Strong Stocks of Bees on Standard Frames or in Straw Skeps. Address James Weatherhead, Ely, Cambridgeshire. 3

FOR SALE.— Two Stocks of Bees in W. B. C. Body Boxes. No Hives. Breeding. Price 17s. 6d. each. Address F. Kent, Dewlish, Dorchester, Dorset.

WANTED. — Apparatus, &c., connected with Bee-culture. Also Curios, Specimens, Honey, Wax, Cells, &c. Address Burns, Westfield House, Fulham. 3

CHRISTMAS Roses, 4, 1s. 3d.; Japanese Anemones, 12, 1s. 6d.; Mrs. Sinkin's Pinks, 12, 2s.; Herbaceous Phloxes, assorted; Pyrethums, grand colours, 12, 1s. 3d.; Iceland Poppies, 24, 1s. 3d. Iceland, Shirley, Mikado, Swan, Bride, Mephisto, Danebrog, Marselli, Poppy Seed, 2d. packet, 8, 1s. 20 Choice Packets of Flower Seeds, including 6 Poppies, 1s. 6d. Address Vicar, Egginton, Leighton Buzzard.

WEBSTER'S Book of Bee-keeping, post free, 1s.; cloth, 1s. 6d. W. B. Webster, Binfield, Berks. "One of the best foreign works."—*American Apiculturist.* "The matter is evidently the result of long personal observation, and is thoroughly reliable."—*Bee-keepers' Record.* "Have much pleasure in recommending the manual to our readers."—*British Bee Journal.*

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

THE DOUBLE-QUEEN SYSTEM.

A Visit to Mr. Wells' Apiary.

The frequency with which we are applied to for information, and the many-sided nature of the queries put by readers regarding what is known among them as the "Wells system," have not seldom caused us to realise how extremely advantageous it would be to all concerned could we but have ocular demonstration of the way the system worked in the hands of Mr. Wells himself, and on the very spot where his success had been achieved. But the gratification of this oft-recurring wish becomes more than ever desirable just now, when so many of our readers have determined to give the double-queen plan a trial in the coming season. In view, therefore, of these facts, an intimation was conveyed to Mr. Wells of what we purposed doing, and this brought a prompt reply, with a very cordial invitation to come and see all he had to show us.

Accordingly, on Friday, the 14th inst., a small party of three, consisting of both Editors of this *Journal* and Mr. J. M. Hooker, left Charing Cross for the journey of forty miles into North Kent, where the village of Aylesford is situated. The day was beautifully fine and warm, more like June than mid-April, and very grateful indeed to our eyes was the sight of the numerous and extensive fruit orchards in full bloom along the greater part of the route. Arrived at Aylesford, a pleasant drive of two miles brought us to our journey's end, and, after a hearty welcome from our host and his good wife, we were soon outside among the bees.

The first thing which struck us on looking around was, how small a portion of the success of Mr. Wells' particular method could rightly be attributed to his immediate surroundings! Here was a neat little garden, twenty-two yards long by about fifteen wide, trimly kept and orderly in every particular, but one of a row of similar gardens, with the houses close to, and seemingly unsuitable in several respects as a place for working bees in on a plan which—according to critics who see but failure in it — requires a peculiarly favourable location in order to make it a success.

The gardens adjoining that of Mr. Wells are separated from it only by an open paling fence three or four feet high, so that, if vicious bees and the troubles arising from them were a necessary accompaniment of the double-queen system, it would become an intolerable nuisance to neighbours whose dwellings were in such close proximity as we saw here. But nothing of the kind was visible.

The hives, ten in number, face S.E., and are ranged less than a yard apart in a single row along one side of the garden, with just sufficient passage-way between their backs and the paling mentioned to allow of all manipulations being performed in the rear. There is no pathway immediately in front; consequently the bees have an open space for free flight, and, as the hive roofs are all fitted with portable hinges, they are not lifted off as is usual when opening the hives, but raised to an upright position, thus forming a sort of screen behind which the operator works, while interposing no obstacle in the way of bees passing in and out. The careful way in which such small details as these have been considered no doubt contributes much to success in maintaining order in the apiary.

Another instance of the same kind is worth noting. The pathway whereon the hives stand is of concrete, smooth, hard, and

cold as a flag. Along the whole front of the hives are stretched strips of cocoanut matting, which, after doing household service indoors, is here utilised for the comfort of such tired and heavily laden bees as fall to the ground in aiming for home. "The cold concrete sometimes chills them and prevents their rising," said the thoughtful bee-keeper; "so I just got that matting from my wife when she had done with it, and you see it serves the purpose intended very well." How much of the best type of bee-man is conveyed in such kindly thoughtfulness for the welfare of his little labourers! Is it too much to say that the consideration of the one for the other brings its own return in hard work and good temper on the part of the bees?

Anyway, here before us were ten hives, all double-queened, working away busily enough to make any bee-keeper wish that he had ten such in his garden. Moreover, they were almost evenly busy; not some with entrances crowded and others slack, but all busy alike, and, withal, labouring contentedly enough to satisfy any reasonable mind that colonies worked so will bring neither disaster nor failure, if properly dealt with. Some entrances were so arranged that the openings to the respective divisions of the hives were nearly a foot apart; others, with the porch not divided at all, had only a flat slip of wood a couple of inches wide separating the two entrances, bees from both divisions crossing over each other's pathway in the most fraternal fashion, but not fighting! In a couple of cases the hives had one entrance in front and the other at the side, as has been suggested by some one in our columns. These seemed to answer well enough, but, so far as we could judge, and for several reasons, we think Mr. Wells is right in preferring both entrances in front.

Our observations thus far refer to what was observable from the outside; and now, our host having lighted his smoker, we proceeded to take note of things inside the hives. When it is borne in mind that the old, or ordinary, system of working twin hives has been described by a correspondent who has had experience of it as "a complicated and difficult system, only suited to the greatest expert," it behoves us to ask, is a long experience of bees really necessary for carrying out the method with which we are now dealing? Mr. Wells—though keeping bees in skeps for many years, and annually smothering them because he knew of no better way—first began working on the modern method eleven years ago; he also informed us that "almost all his knowledge had been gained from Cowan's *Guide-book* and the *Bee Journal*." He is, moreover, so little possessed with self-conceit or assurance that we can fancy his smile on being classed as one of the "greatest experts" who alone are capable of managing double-queened hives!

Another point charged against the system is, that bees are rendered vicious by being worked on the double-queen plan. Well, on this point we can only say that four hives, containing the progeny of eight queens, were examined, the combs and brood being overhauled and their condition ascertained; no veils or protection of any kind were used by any of the party, and not a single sting was inflicted, nor was a single bee, we believe, injured. Surely, then, the danger apprehended by some of our correspondents is not real, unless brought about by causes which don't appear upon the surface.

That the warmth of double lots of bees in one hive is mutually beneficial was also made very apparent by the way in which the cells on *both sides* of each comb next the perforated divider were filled with brood. Bee-keepers of experience will appreciate this fact because they know how seldom brood is found on the *outside* of outside combs in mid-April. Here, however, in every hive examined was plain evidence that the bees of both queens formed one continuous cluster, extending right through both brood chambers; the perforated divider inserted in the centre causing no break in it. The combs on the other side of each compartment were just in ordinary or normal condition, with no brood on the outside, although placed next to a warm, chaff-packed dummy, about three inches thick. This feature is not unimportant, because it shows that the very thin wood divider (not more than one-eighth of an inch thick) used by Mr. Wells, if perforated exactly as he does it, answers perfectly the purpose for which it is intended.

We need but to say of the stocks examined, that they were strong and in excellent condition, very forward, in perfect health, and storing honey fast. But that any very special method, differing from the ordinary one, is needful in managing bees on the double-queen system was no-

where apparent. In fact, the hives were not made for the system, but have been adapted to it. They are all the handiwork of Mr. Wells himself, though only an amateur joiner. But he is evidently very apt in knowing what is required for his purpose, being what one would call a "good contriver." This was evidenced, among other things, in his arrangement of the double pairs of small staples driven into the hive sides for keeping the perforated dividers fixed and rigid. Rigidity could, of course, be secured by sliding the latter down grooves made in the hive sides; but that would not permit of moving the dividers laterally, which is at times necessary. The staples referred to therefore project only so far as to hold the divider in position, while allowing the side bars of the frames to pass without touching.

After noting all we could outside, and expressing unanimous interest in and approval of what we had seen, a move was made indoors for a little rest and refreshment. Then the workshop and store-room was invaded, only to find the same order everywhere. Here were the nucleus hives made from meat-cases, and utilised now, along with surplus chambers and various other boxes, for the accommodation of hundreds of store combs ready for use. And beautifully built-out white combs for storage they were, too; no "sagging," but straight and attached to the wood all round. The frames were "wired" on the simple plan of five upright wires to each frame, and a breakdown never occurs. Mr. Wells makes his own brood foundation, using the now rather primitive plaster casts for impressing the sheets.

He also has an excellent arrangement for extracting the wax when melting down combs. It consists of a tin tank, 28 inches by 17¼ inches, and 16 inches deep. By fixing them alternately top and bottom upwards, it holds two dozen frames of comb. Nine inches from the bottom a projecting ledge of tin extends right round the tank, and a wooden tray or strainer, with sides six inches deep, covered on one side with coarse canvas or cheese-cloth, resting on this ledge, keeps the frames down by means of a couple of "buttons." In working it, after the frames of comb are in and the wax-tray fixed, the whole is lifted on to the stove or kitchener. Water is then poured in till it comes through for some distance above the canvas bottom of the "tray," and the whole is allowed to "boil," we suppose; but, anyway, it stands on the stove till the wax has all risen to the top of the water, and when cold it is lifted off, a solid cake.

The wax is thus boiled out of the frames, while the frames themselves are thoroughly cleaned and disinfected, if such is needed, at one operation.

We will conclude our all too brief account of the very enjoyable couple of hours spent with Mr. Wells by describing how he makes the perforated wood dividers anent which so much misapprehension appears to exist.

He first selects a piece of well-seasoned yellow pine, without knots, of course; this is planed down to one-eighth inch thick, and is then compassed and pencilled off by lines quarter of an inch apart, till the whole surface is divided into quarter-inch squares. Beginning at the first line on the left where the lines cross each other, a series of holes are, by means of a bradawl, punched through the wood right across the divider. The second row of holes starts at the second upright line; then the third row is begun directly under the one first made, and so on until the whole surface is covered with holes thus:—

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• • •

These small holes are next enlarged by being burnt through with a hot wire one-eighth inch in diameter, sharpened at one end, and it is found that the numerous perforations entirely prevent the wood from warping.

ROYAL AGRICULTURAL SHOW AT CHESTER.

We desire to call the attention of manufacturers of appliances and bee-keepers to the fact that entries for the above Exhibition close on May 1st. The locality (Chester) in which the show is to take place this year affords our manufacturers an excellent opportunity of bringing their goods to the notice of the residents of North Wales and the adjacent counties. It is nine years since the "Royal" Show was held in this neighbourhood, viz., at Shrewsbury, in 1884. Chester is, however, in a much more favourable position, being more accessible from all points; and, as the "Royal" has not visited there since the year 1858, it is anticipated that the forthcoming Exhibition will be largely patronised. The space already taken up for the exhibition of implements is much in excess of last year's

Exhibition. We also invite special attention to the arrangement whereby exhibitors of honey are entitled to have their entry fees returned in those classes for "honey of the current year" in case the weather is unfavourable for honey-gathering. Application for prize lists to be made to the Secretary of the B. B. K. A. (J. Huckle), Kings Langley, Herts.

APPLIANCE DEALERS AND THEIR CUSTOMERS.

As was anticipated, our remarks on this debatable subject have brought us several letters from gentlemen who may justly consider themselves as entitled to inclusion in the ranks of what was referred to as "our most popular appliance-dealers," protesting very strongly against such generally sweeping terms being used without giving the name of the offender. We printed the letter as received, omitting the name of the writer in the use of our editorial discretion. In the exercise of this same discretion we think it will be better for every one if this reference to the matter is allowed to suffice, and that the letters now before us be passed over. We say this for two reasons: first, because of our limited space; and, second, their publication would only result in the receipt of many others of the same tenor, followed, no doubt, by a further batch of complaints from irate bee-keepers. Viewing all these aspects of the case, we, therefore, trust that the matter may be allowed to rest where it now stands, believing that a course of mental consideration on the part of the parties concerned will be productive of more satisfaction to all than would the publication of complaints and recriminations on either side.

LANCASHIRE AND CHESHIRE BEE-KEEPERS' ASSOCIATION.

The eleventh annual general meeting of this Association was held at the Angel Hotel, Dale Street, Liverpool, on Monday, February 20th, 1893—Lord Lionel Cecil, the President, in the chair. The report and balance-sheet were read and agreed to. The President was re-elected, as were the Vice-Presidents. The Committee for 1893 was next appointed, and the honorary offices of Treasurer, Secretary, Librarian, and Auditor were left to be filled up by the Committee.

Among other matters in the report it was stated that several apiaries had been already established at different centres in Lancashire, where classes were to be held, as arranged with the Lancashire County Council, who have granted a sum of money for this purpose; that the County Council of Cheshire had, however, taken the matter of technical instruction in bee-keeping into their own hands.

The meeting terminated with a vote of thanks to Lord Lionel Cecil for presiding.

At a Committee meeting held on Wednesday, April 5th, 1893, the appointments above referred to were made as follows:—Mr. W. Tyrer, of Prescot, Chairman; Mr. T. D. Schofield, of Alderley Edge, Hon. Secretary and Treasurer; Mr. Kinner, 20 Sir Thomas' Buildings, Liverpool, Hon. Librarian; and Mr. Handy, Hon. Auditor. It is requested that in future all communications be addressed to the Hon. Sec., L. & C. B. K. A., Oakfield, Alderley Edge, Cheshire.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The* MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-DOINGS IN HUNTS.

Comb Foundation and Foul Brood.

[1402.] My last year's take of honey was about six hundred pounds: an average of about thirty pounds per hive from sixteen frame hives and four skeps, spring count, which I think is the only fair way of striking an average; for, if we only counted the hives from which the honey was taken, my average would be forty instead of thirty pounds.

I have now twenty-three frame hives and four skeps (lost two from queenlessness), mostly in good condition, twelve or fourteen of them having bees covering ten frames, and sealed honey along the tops of seven or eight frames. Thanks to the beautiful weather of last month, there is no fear of starvation now. I have been a bee-keeper seventeen years, and never knew the bees so strong at this time of the year as they are this spring. I have been giving them flour candy for the last seven weeks, and, on raising the quilts, I find pieces of newly built comb on the tops of frames as big as my hand where the flour cake had laid. If the weather is suitable next week, I intend spreading the brood by inserting a sheet of foundation in the centre of the brood nest of the strongest. I

make all my own hives with floor-boards, body-boxes, frames, lifts, and roofs, all interchangeable, and for that reason I don't go in for shallow frames, as I don't want so many different-sized things about my apiary.

The "Wells" system will have a fair trial this season, judging by the amount of correspondence referring to it; but I shall wait and see how others get on before I alter my hives for it.

I asked you some time ago if there was any danger of foul-brood infection from using foundation which might possibly have been made from foul-broody combs. You assured me there was not; but from recent articles on foul brood in the *Journal*, it looks as if some writers think there is just a possibility of it. I don't understand the manufacture of foundation, but it would be interesting to know if it is kept at the heat required the length of time to destroy the germs. Was foul brood ever known to be introduced by using foundation? Perhaps some one may experiment in that direction so as to make quite sure about it, for, passionately fond of bee-keeping as I am, it makes me feel like giving up the job if I found foul brood in my apiary.

A correspondent (query No. 750, p. 148) asks if he could make a double-queened lot out of a strong colony. I will give you my experience somewhere in that direction, though in my case it was not a question of giving a queen but making the bees raise queen-cells. Last July I wanted some queen-cells, and, being a bad hand at finding the queen, I could not remove her so as to make the bees raise queen-cells. I therefore inserted a division-board in the centre of a strong colony, and, although the biggest half of the bees went over to the queen's side, the bees on the other side raised several ripe queen-cells. Two or three other stocks, served in the same way, gave similar results. I successfully requeened a skep last summer by inserting a piece of comb on which were two queen-cells with the royal grub in them, pegging it securely to the other comb with a wooden peg or two. I found that both the young queens hatched out all right, and the stock is now going on well.

I have never used queen-excluder yet, but am going to fit all my hives with it this year; for I found out last year, in working for extracted honey, the queen got upstairs too much. Perhaps you may remember me asking your advice last summer respecting two lots of bees on forty standard frames each, worked without excluder, and which you expressed a wish to know more about later. Well, although I got from sixty to seventy pounds of honey from each of them, I found the queen had in each case made her home in the upper story and very few eggs were laid in the bottom one; so that, if I had used excluder as you advised, one set of frames might have been dispensed with. One of these lots died out this winter, queenless.

Although it is seventeen years since I commenced bee-keeping, I have had only twelve years' practical work, owing to a break of about five years during which I had no bees; but only during the last three or four years have I kept them on the modern system, regarding which I have learnt nearly all I know from the columns of the *B. B. J.*, which is eagerly read by me.—Richard Few, *Needingworth, Hunts.*

[Referring to the risk of introducing foul brood by the use of comb foundation, if our correspondent will use the simple preventives available, we think he may give up his alarmist views on that point. But, in any case, surely one who is "passionately fond of bee-keeping" is not going "to give up the job" at first sight of the enemy. We have heard it said that no one should consider himself a thorough bee-keeper till he has had a touch of foul brood among his bees and mastered it.—Eds.]

THE WELLS SYSTEM.

[1403.] I believe the "Wells" hives, in competent hands, will prove a success; but there must be competency and care. A bee-keeper here has just put two stocks into a "Wells" hive, and only one stock had been flying from the new position, the other being brought from a different location, the result being naturally a general mix-up and war of extermination.

In my letter (1228, p. 451) in November last I told how I had stocked my first "Wells" with two small nuclei, headed by sister-queens of 1892. It is certain that neither of these baby stocks would have wintered by itself, and I am pretty sure that had I united them in one ordinary hive it would have been risky. I opened the "Wells" to-day, and I found what Mr. Wells said would happen—five heavy frames of brood in the centre, three on one side the perforated divider, and two on the other. Here, in a mass, they had clustered during the winter, just as if they were but one colony, and the divider were but a comb between; and here are baby bees staring at their cousins through 400 little holes in a wall only one-eighth of an inch thick. I don't care now whether Mr. Woodley would call this "a twin colony, or a dual colony, or two colonies in one hive," as on p. 136. I am going to extract honey from that hive, and any sort of a name will do after that. I made another "Wells" last November, and in March I drew a fair stock, and the weakest I had side by side to populate that. Finding dead drones on April 4th at entrance to larger stock, I opened hive, and got my first experience of a drone-breeding queen—two frames full of drones, and the poor bees had had to elongate the worker-cells to accommodate the monsters. I caught and exterminated the culprit. All I had to do was to remove the perforated divider and push the small colony, with a laying queen, up to the larger one. The bees mingled happily. They had all been introduced to each other a fortnight before. Here, in partial failure, was an advantage with the "Wells" otherwise denied. The empty side awaits a small swarm or nuclei, as most convenient. To meet the contingency of a swarm from a large "Wells"—

remembering Mr. Wells said both sides swarmed together, and that no skep of his was large enough to hold such—I have attached two skeps together. Cut out the top of one, unwind the cane and use it to bind the walls up, and you will have a receptacle big enough to catch any swarm that flies.

All my stocks wintered well; all are led by young fertile queens; all are in newly painted white hives (the favourite colour of "X-Tractor"); and, viewed these sunny days among the exquisite green of the currant-bushes and the glow of the opening wallflowers, the very sight seems ample repayment for all one's trouble.—H. C. J., *Horninglow Cross, Burton-on-Trent.*

DOINGS IN DERBYSHIRE.

[1404.] Bees in this quarter have wintered remarkably well in almost every case, very few losses being heard of, the bees also coming to spring work in fairly strong numbers. Drones are appearing early, and stocks now strong give promise of early swarms. If we could have a few warm showers to aid the growth of the clover, and good weather in June or July, then honey will be in abundance this year. Natural pollen has been very early this spring, the artificial pollen being called into requisition very little.

It is not to be wondered at that the B.B.K.A. find a decrease in their funds. Bad seasons are telling on bee-keepers generally, many Associations thereby suffering. I have noticed a decrease of subscriptions in our county for the last three or four years. What we most want is a few really good honey seasons, which will do Associations a deal of good. In our county we find much trouble in defining clearly the "cottager class," many gentlemen to whom the idea of being classed as cottagers (in the strict sense of the word) would be quite repugnant, paying the cottagers' subscription, for the simple reason that they can obtain the same advantages as by paying the ordinary members' subscription of five shillings and upwards. Only twelve months ago we sent a circular to members calling their attention to the above important facts, and good results have accrued from it. Our Committee have instituted an "All England" class for honey this year. The County Council have renewed the grant of 50*l.* to the D.B.K.A., and lectures are now being organized, coupled with open-air demonstrations where convenient in various parts of the county.

The "Wells" system is apparently still well to the front; but the "standard honey-bottle" question seems to have dropped through—at least, I have not yet seen the decision of the B.B.K.A. on the question. I have long been looking for the promised article from our friend Mr. Woodley on "The Production of Comb Honey," but have not had the pleasure yet. Now, friend Woodley, speak up, please, ere it is too late, and let us gather a few wrinkles for our guidance this and other years. Trusting we may have a prosperous year alike for the clover *and* "The Heathen."—H. Hill, *Ambaston, Derby.*

WIRING FOUNDATION.

[1405.] Well, Messrs. Editors, that *was* an unkind remark in your footnote to 1387 (p. 128) about my pet plan of wiring frames. I'm just about to "call you over the coals," and at the same time make a charge of gross exaggeration against you. You say "the American plan saves *half* the wire." Now, that's wrong, to start with. My plan takes seven feet two inches of wire, and the American plan five feet to each frame. That's not half. I don't exactly "catch on" as to the number of "points;" but my way requires seven stretches of wire, and the American five. You can't anyhow make that half the labour, especially when you take into account that the actual wiring is the smallest part of the labour; the driving and turning of the hooks takes the most time, and there my plan is exactly the same as the American (four hooks). Now, the last sentence was the severest stroke of all—"quite as effective." Well, I've wired several thousand frames my way, and have never had a crooked or sagged comb, and in no single instance have I fastened the foundation in any way to the top bar, always using solid top bars when wiring. I have tried the American plan as illustrated, and always get more or less sagging from middle of top bar to junction of cross-wires at bottom. I know when I first saw the American plan (I had exhibited and taken a prize with mine before that was brought out) I jumped at it at once, and wired ten frames right away. I think I had four out of the ten so badly sagged that I had to replace them; of course, I didn't fasten the foundation to the top bar, as I used the American plan as I used my own. Now, Messrs. Editors, what do you think of this for effectiveness? I sent last season two colonies of bees to Scotland, three to Lancashire, and several others shorter distances. Each of these were swarms of the current year, and in no case had the combs been built out from foundation three weeks, and yet they all arrived safely without a single broken comb. Would the American plan hold the combs like that? I have for several years (since 1888 or 1889) sent bees on newly (from two weeks to two months) built combs, and have never had an accident when wired after my plan.

Now, pray don't apologise. You have my hearty forgiveness for your unkindness and want of charity towards a countryman of your own.—W. B. Webster.

[We readily confess having omitted to take any measurements when comparing Mr. Webster's plan of wiring frames—as shown in the sketch sent by Mr. W. H. Augur, and the one illustrated on p. 128; in fact, our impression was formed by simply casting our eye over the sketch and comparing it with the familiar American

plan. In order, then, to justify, to some extent' our editorial comment, we have prepared a cut of Mr. Webster's plan (Fig. 1), and insert it

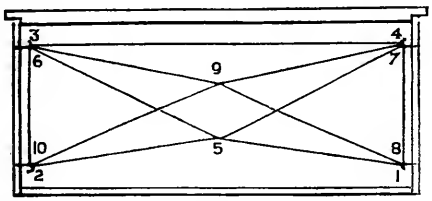

Fig. 1.

here alongside the one to which our reference was made, for the purpose of comparison. We thought the one very complicated, and the other very simple, and it is rather an "optical delusion" to find that double the amount of wire is not required in Fig. 1 to what is needed in Fig. 2. However, we acknowledge our "slip,"

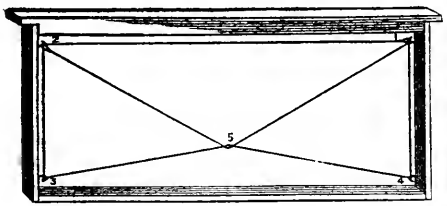

Fig. 2.

and express regret for it. The second complaint our correspondent makes against us is, however, hardly justified. When referring to effectiveness, we certainly never thought of taking into account the special precautions necessary for preparing recently hived swarms for travelling long distances by rail; that is a dealer's question. But, for ordinary bee-keepers' requirements, the plan shown in Fig. 2 has always proved perfectly effectual so far as our experience goes. But we always insert foundation in the saw-kerf of top bar.—EDS.]

PREPARING FOR SHOWS.

[1406.] Now that the season of honey shows will soon be upon us, I should like to draw attention to the very short time before a show at which labels and numbers for exhibits are sent out; although, of course, this does not apply to all shows, yet it does to a great many. Last year, on three occasions, I was obliged to send off my exhibits without receiving the labels and numbers, and in two of these cases I received letters from the secretaries stating that my exhibits had arrived very late; if I had waited for the labels, the exhibits would probably have arrived too late for admission to the show. I have no doubt there are reasons why the numbers should not be sent out until as late a date as possible, but I think that secretaries should arrange to send them out at least a week before the show, so as to give about five days for labelling, packing, and the journey. My own experience is that three or four days is not a bit too much to allow for exhibits sent by goods train, when they have to go any long distance and by cross-country routes.—O.

EARLY SECTIONS.

[1407.] It may interest some of your readers to know that I took a well finished one-pound section of new honey on Wednesday, April 12th. The bees in that particular hive are working hard in the super, and I could have taken three or four more sections had I wished, but I thought I would not disturb them further than to take out one to show my friends.—R. W. SEALY, *Abbotsham, Bideford.*

WEATHER REPORT.

ABBOT'S LEIGH HAYWARD'S HEATH, SUSSEX.

	Week ending			
	March 25.	April 1.	April 8.	April 15.
Max.	61°	65°	68°	66°
Min.	23°	30°	34°	27°
Mean Max.	54·3°	61·2°	63·3°	55·5°
„ Min.	30·3°	33·4°	38·4°	35·4°
„ Temp.	42·3°	47·2°	50·8°	45·4°
„ in Sun	76·6°	78·6°	81°	72·4°
Rain	—	—	—	—
Wind	N.&N.E.	N.E.	N.E.	N.E.&S.W.

R. INGLIS.

Echoes from the Hives.

Honey Cott, Weston, Leamington, April 15th.—We cannot say at present that April brings the showers this year, considering it is the middle of the month, and we have had no rain; however, if we may get some soon, and then a continuation of the beautiful weather we have had this last month (barring the severe night frosts). I went last night to look at some bees a few miles away, and found a box, that I had put on about a month ago, full of candy-cake, holding three or four pounds. The candy was all consumed, and the box filled out with comb, containing about a pound of honey, showing unmistakably that the bees were doing very well. I pointed out to the person, if it comes showery and cold, the bees would probably want feeding, but she could hardly realise such a contingency. I have three stocks in another direction, and they have moved off the candy-cake to some tune. Those at home have been stimulated with thin syrup, made by pouring cold water on to a strainer filled with sugar, and letting it percolate through into a honey tin, and then drawing it off by the tap at bottom, and don't the bees like it! Anyway, they don't object to take all they can get. Bees are breeding much earlier than usual this year, and will require a lot of looking after if adverse weather should come by-and-by. Blackthorn is in full bloom, but clover, beans, &c., are very backward here

for want of the rain. Apples are already showing bloom. I have moved several stocks without the proverbial "yard a day," by putting them just where wanted, and fixing a bit of glass in front, so that the bees might bump their heads against it in coming out. I find very few go back; I have noticed them even the next day in their new location busily carrying in pollen, as though they had been there all their lives. Look out for queen-wasps! I have already caught seven or eight, which means a nest destroyed for each one of them. — JOHN WALTON.

Queries and Replies.

[754.] *Foul-broody Stocks Storing Surplus.*—I have four strong lots of bees in a neighbourhood exceedingly well supplied with fruit-trees now in full bloom. Each stock is storing honey rapidly in shallow frames placed on top of a body-box which has five to seven frames of brood in all stages. But there are here and there patches of foul brood, although the bulk of it seems to be healthy. I have given the bees clean boxes and floor-boards, and have carefully washed those removed with a hot solution of soft soap, as recommended in the "Important Paper on Foul Brood," which appeared in the *Journal*. I am unwilling to interfere with the rapid collection of honey now going on, which the giving of medicated syrup would, I suppose, do. I will, however, carry out any measures you may be kind enough to advise me.—SOUTH SAXON, *Sussex, April 10th.*

REPLY.—Beyond the use of naphthaline on floor-boards, we should advise leaving the bees alone while they are storing honey so rapidly. It not seldom happens that the vigour of a strong stock will enable the bees to overcome or ward off an attack such as is referred to. Besides, the only alternative to the above will be removing the brood combs, destroying the latter, and reducing the bees to the condition of a swarm prior to putting them on full sheets of foundation.

[755.] *Overdosing Combs with Salicylic Acid.*—I have sprayed about forty combs with salicylic solution 140 times stronger than the solution mentioned as correct in the *Guide-book*. Some of them are brood combs with honey in, and the rest are white combs used for extracting. They taste very bitter and nasty if a piece of comb be broken off and put in the mouth. 1. What am I to do to remove it from the extracting combs, as it would be sure to taint the honey? Will it hurt the bees if I give them the brood combs as they are? 2. How can I tell from which hive a swarm has issued? 3. I have a large number of combs in my hives full of candied honey. How can I extract this or otherwise utilise the combs, as the queens do not seem to have room to lay? Bees are doing splendidly in this district. I have had to super three stocks already. They wintered on fourteen, sixteen, and seventeen combs respectively, and now have about forty pounds of honey each from last year, as very little was taken from them last season. I purchased these together with three other stocks this spring.—ERNEST WALKER, *Erith.*

REPLY.—1. If the overdosed combs are sprayed or syringed well with warm water, and afterwards put through the extractor for a few turns to dry them, they may be used again with no bad results. 2. If the "deserted look" of the hive entrance does not sufficiently indicate the swarm's departure, the quilts must be raised and the question judged by the quantity of bees left. If this won't decide the point, the combs must be examined for queen-cells, or, if this is not convenient, wait till the ninth day after the swarm was supposed to have come off, when "piping" will be heard if the bees have swarmed. 3. The honey in combs is probably only partly candied, and if this is so, remove the cappings and let bees clear it out. You cannot extract candied honey.

[756.] *Drone-breeding Queen.*—Three weeks ago, upon examining one of my colonies, I found brood upon one frame only, all of which was drone. The queen was there, and she appeared to me a fair specimen. I therefore decided to wait events. To-day I find no better results, so I caught the queen and am forwarding her to you for inspection. Kindly inform me the result of your examination.—ALFRED HUTCHINSON, *Birmingham, April 14th.*

REPLY.—Queen sent is not an old or worn-out one, but she has apparently never been fertilised.

REVIEW OF CONTINENTAL BEE JOURNALS.

BY J. DENNLER.

(*Continued from page* 149.)

L'Abeille Toulousienne, bulletin of the Bee-keepers' Society of the South, publishes in its last number a Circassian legend. "One of the worst demons, according to this Circassian story, swore he would destroy in one day all domesticated animals in order to injure man. He therefore gave the horse glanders, hydrophobia to the dog, rinderpest to cattle, foot-rot to sheep, and the pip to chickens. For the bee he produced a storm and thunder. When the hive was turned over and drenched, the bees flew up into the air seeking for a refuge, and saw there the Virgin Mary, who herself opened the folds of her azure cloak. The bees found rest here, and out of gratitude made a comb of honey in the sleeve of her to whom they owed their life. Owing to this protection the bees

continued to live in Circassia, and became a source of revenue to the people. From this comes the gratitude of the inhabitants to the Virgin Mary, whom they call, owing to her goodness, Meriennée Melissa, patroness of the bees."

L'Auxiliaire de l'Apiculteur. Editor, J. B. Leriche, of Amiens.—*Statistics in France.*—According to the returns of the quantity of honey and wax produced in France during 1891, the 87 departments contained 1,634,978 hives of bees, which produced 6,753,325 kilos of honey of the value of 9,468,486 francs, and 2,097,783 kilos of wax valued at 4,570,011 francs. The average price of honey was 1·52 francs per kilo, and of the wax 2·24 francs per kilo. Crude wax to the value of 3,308,406 francs was imported, and 1,074,159 francs-worth of crude wax and 1,369,311 francs-worth of honey were exported.

L'Apiculteur. Editor, E. Sevalle, of Paris.—M. G. de Layens publishes the following note on queenless hives:—

"Two years ago, in the spring, I found a queenless hive in my apiary. As it contained many bees I gave it a comb containing brood in all stages. A few weeks later, seeing that it had neither brood nor queen, I gave it two more combs of brood. Being obliged to be away for some time, I did not visit this hive until my return at the beginning of September, when I took the harvest of honey. This colony was still queenless, and as it was too late in the season to try and make it rear a queen, I left it for some time. Towards the end of September, the temperature being favourable, the ivy was yielding honey and the bees gathered it from this source. The queenless hive appeared to be also working. I wanted to find out if these old bees were gathering honey, or if they were only airing themselves outside. This is how I proceeded to experiment. Operating as rapidly as possible, and with scarcely any smoke, so that the bees should not have time to gorge themselves with honey, I removed all the frames from the hive and replaced them with empty ones. On looking at the hive next day, I was astonished to find very few bees coming out of the hive, whereas in the other hives the bees were very active. But on the following day the bees from the queenless hive also came out; but many of them did not fly, but walked on the alighting-board, and fell on the ground, and crawled away to die. It is therefore seen be this experiment that old bees cannot collect honey even for their nourishment. The bees, therefore, of the queenless hive had been living for some time at the expense of the provisions it contained."

(To be continued.)

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** We are requested to ask, will Miss Mary Sanger, of The Lodge, Dechem Road (insufficient address); also Major Hallett, 57 Regt., late at Waterford, kindly communicate with S. Simmins, Seaford, Sussex.

Mabel J. Lindsey (Mutley, Plymouth).—*Beginning Bee-keeping.*—Before you can hope to succeed with bees it is absolutely necessary to read some book on bee-keeping. It would be quite impossible for us to give all the instructions needed by way of query and reply. The smallest book on the subject is *Modern Bee-keeping*, *7d.* post free; also the *Bee-keeper's Guide-book*, price *1s. 8d.* post free, from this Office, besides other works advertised in our columns.

Ed. Slater (Kingswinford).—Queen sent is an adult one, and probably fertile; but the body as received is not in fit state for a *post-mortem* exam. Bees have a slight trace of the Carniolan in them.

Torbay (Devon).—Comb is badly affected with foul brood. As a beginner, and with only the one stock, we have no hesitation in strongly advising the immediate destruction by burning of the combs and frames. No good could come of your trying to cure it under the circumstances. The hive also must be thoroughly disinfected before being again used. It is a shame (if the facts were known) for any one to sell such a stock, which is far worse to a bee-keeper than being entirely worthless.

South Beds.—*Paint for Hives.*—We should prefer buying it ready mixed. Not "tinned" paint, but got from a suitable tradesman. The materials are white lead, boiled linseed oil, turps, and driers, together, of course, with the "dry colour" needed to make the proper tint.

H. S. (Kidderminster).—*Bees and Salt Water.*—The salt in the water-troughs was no doubt the attraction which caused them to visit the troughs "as thick as hail," but we cannot understand them "fighting for it as if it was honey." No harm, however, will result. It is not necessary to feed in order to help bees to "draw out" foundation.

WINTERING BEES. By Thomas W. Cowan. The most complete work on the subject of Wintering published. Third Edition. Price 3½*d.*, post free. *British Bee Journal* Office, 17 King William Street, Strand, London, W.C.

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STRONG Healthy Swarms of English Bees, ready first week in May. Foul brood unknown in my Apiary. Expert declares county free. Orders booked now, executed in rotation. Address EDWARD GIBBINS, Neath, Glamorganshire. 2

SECTIONS, one pound each, wanted, Clover or Heather; crop 1892. Must be good clear Honey, and well filled. Apply or address Mr. LEITCH, 208 St. George's Road, Glasgow. f. n.

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FOR SALE.—90 lbs. of Pure Clover Honey at 6½d. per lb. Address POMERY, Trethem, St. Mawes.

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FOR SALE.—Strong Stocks of Bees on Standard Frames or in Straw Skeps. Address JAMES WEATHERHEAD, Ely, Cambridgeshire. 2

WANTED.—Apparatus, &c., connected with Bee-culture. Also Curios, Specimens, Honey, Wax, Cells, &c. Address BURNS, Westfield House, Fulham. 2

FINEST Extracted Honey, in ½-Cwts., at 7d. per lb., tins free. Sample 2d. Deposit System. Address R. DUTTON, Terling, Witham, Essex.

FOR SALE.—8 Single-walled Hives, "Simmins" Pattern, and 6 Straw Skeps, new; Raitt's Honey Press and Sieve; Raynor Honey Extractor. To be Sold Cheap. Prices and particulars on application to EDWARD LANG, 35 Seymour Street, Chorley, Lancashire.

FOR SALE.—*American Bee Journal*, 1885, complete, Also *British Bee Journal*, 1885, 1886, complete; 1887, Aug. 4, Nov. 24, short; 1888, April 26, Aug, 16, short; 1889, March 14 short. What offers? Address COOPER, 71 High Street, Burton-on-Trent.

GUARANTEED Healthy Natural Swarms of Pure Natives, 3½ to 4 lbs. weight, price 12s. 6d. Packing-box included. Ready in May if weather continues favourable. Orders in rotation. Address CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 566. Vol. XXI. N.S. 174.] APRIL 27, 1893. [*Published Weekly*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—In thinking about the weather just now, one wonders how long the present June-like warmth and bright sunshine is going to last. Anyway it will require a long reach back in one's memory to recall the like of the last six weeks at the same season of the year. The long-continued absence of rain begins to make matters look a bit serious for vegetation unless a change occurs very soon. So far, however, there is no approach to a "parched" appearance, the drought not having adversely affected the ground crops in Kent, everything looking beautifully fresh and green here as we write, while the fruit-trees are loaded with bloom.

Speaking of drought, we quote below, as being useful for future reference, some remarkable particulars communicated by a correspondent who writes as follows in a recent issue of the *Times*:—

"The absolute drought which was brought to an end by the very insignificant shower in the early hours of Monday morning (April 17th) was the longest absolute drought since my record was commenced in 1857, for it has lasted twenty-nine days. In the thirty-five years there have been eleven instances of three weeks' absolute drought, but until the present drought there had been but one instance (Aug. 9 to Sept. 5, 1880) of four weeks, or twenty-eight days; and this in 1893 has been exceeded by one day, making it, as before stated, the longest absolute drought on my record. But it is more than this, and how much more we cannot yet tell; for the partial drought which began with February 28, and has lasted forty-eight days, or nearly seven weeks, is still unbroken, while the longest previously was forty-five days, from April 16 to May 30, 1880. As far, therefore, as my record of thirty-five years is concerned, the drought has had no equal; but, if it be permissible to write from my own memory, corroborated by other records before I began mine, I believe that one of the wettest years of this century (1852) was as noteworthy for its spring drought as it was for its excessively wet autumn and early winter."

EARLY SUPERING.—The remarkable way in which bees are thriving and filling up their hives in some places has brought us some urgent queries as to "how soon bees may be supered?" We do not care to commit ourselves to *dates* in replying, because of the unfortunate habit some have (beginners especially) of founding a precedent on our replies. In this way they get the notion into their heads that about the second or third week in April is the orthodox date for such operations. We must, however, remind them how seldom it is that the shade temperature in London continues so high as to vary between 65 and 80 degrees Fahrenheit for the whole of the last fortnight of April! Moreover, how often do we have finished sections of the current year taken off hives on the 12th of the month, as was recorded on p. 157 last week? They must also recollect how very forcibly do circumstances alter cases, and, although it may be right to give surplus room in April *this* year, it is very seldom indeed that the season will warrant such a proceeding.

But, while we enforce these facts by way of caution so far as ordinary seasons go we cannot shut our eyes to the exceptionally favourable nature of the early bee season as it comes before us. Only yesterday (the 24th) a well-finished sample of this season's sections was brought to this office by a gentleman who is but a young bee-keeper, residing at Malvern Links. The crate

was put on the hive on Easter Monday, the 3rd, and removed filled on the 19th inst.! Again, a clergyman writing from Cheshire (not an early county) on the 22nd, says: "It is a wonderful season for honey. I never knew so much in my hives at so early a date." Another correspondent writes of a veteran bee-keeper of eighty-six declaring that he "never knew such a spring for bees." How long these conditions will continue, who knows? We may be feeding our bees in May, so let us make hay while the sun shines; but remember many things may change before the honey season proper opens in June.

LANTERN SLIDES IN GERMANY.

A correspondent in Germany (Herr H. Reepens, Hesse Darmstadt), referring to the lantern slides on bee-subjects, writes as follows:—

"As I read so much in the *British Bee Journal* about lantern slides for bee-lecturing, I have imported a set. This kind of slides have hitherto been quite unknown in Germany, and I am hopeful they will be a success here."

We are pleased to receive the above communication in view of the fact that the B. B. K. A. has recently done itself honour by electing several of the most eminent German bee-masters to membership as Hon. Members and Hon. Foreign Corresponding Members. We have no doubt that an extended interchange of thought on bee-subjects will take place between the two countries. America, France, and Switzerland are also now represented on the membership list of the British Bee-keepers' Association by no less eminent bee-keepers in their respective countries, including the Rev. L. L. Langstroth.

ESSEX BEE-KEEPERS' ASSOCIATION.

Annual Meeting.

The thirteenth annual meeting of the Essex Bee-keepers' Association was held at Chelmsford on Saturday, April 8th—Mr. Edward Durrant presiding. The accounts presented showed that, although the expenditure for the year had exceeded the income by 12*l.*, there was still a balance to the good of several pounds. It appeared from the revenue working of the year, that the expert's salary for spring and autumn tours, and commission as collector, was 59*l.*; the expenditure on prizes and shows, 54*l.*; and the cost of *Records* given to cottage members, about 5*l.* Contributions in the shape of special prizes and grants from the societies in connexion with which the shows were held met 45*l.* of the show expenses, while the annual subscriptions amounted to 84*l.* Commenting, in his report, on the financial position, the Hon. Secretary explained that for some years past, as they had widened the sphere of their work, they had been working beyond their income. Year by year they had been drawing upon capital which had accrued during comparative inaction, until what was a few years ago a balance in hand of over 30*l.* was reduced to one of 7*l.* The time had arrived when they would be killed by overwork unless they could obtain an increase of their annual income, or, as an alternative, were to revert to the management of former days—that is, hold no shows, no longer send the *Record* free to cottagers and labourers for a nominal subscription of 2*s.* 6*d.* and 1*s.*, and reduce the expert's visits to members to one in each season. This, it was hoped, would not become necessary, as the expenditure of the past had been amply justified by the work done and the marked success attained. The report went on to state that the regular work of the Association had been supplemented by their having given pioneer lectures and tent demonstrations in connexion with grants made by the County Council for technical instruction in bee-keeping, but up to the present the Technical Instruction Committee had not sanctioned the scheme submitted to them by the Association for giving real technical education in bee-keeping by means of classes, in the same way as any other subject would be taught. The Secretary's report and the accounts were adopted. The Association will therefore continue its work as heretofore—at any rate, for the present year—awaiting the result of the intimation thus made public. According to the expert's report, the members have now upwards of 1400 hives in their possession, and these are visited twice during the season by Mr. Debnam. He said foul brood existed in some four districts in the county, but not to any great extent, and he was gradually reducing it. The past season was but a "moderate" one. Several members had taken as much as half a ton of honey—one, a farmer, who told him it was his best crop, having been able to dispose of the whole of it at 9*d.* a pound. Some of their cottage members, too, had made a profit of over 10*l.* on a few well-kept hives. Lady Brooke was re-elected President, and the other officers were also re-appointed, Mr. A. Barnard being added on the Committee. The re-appointment of the Hon. Secretary was accompanied by an expression of thanks to Mr. Meggy for his past services. Mr. Meggy reported that he had applied for a grant of 30*l.* to enable them to hold an exhibition at Romford on the occasion of the Agricultural Society's Show on June 14th and 15th, and it was left to the Committee to draw up a schedule should a grant be made.

LEICESTERSHIRE BEE-KEEPERS' ASSOCIATION.

The Annual Meeting of this Association was held in the Mayor's Parlour, Old Town Hall, on Saturday, the 15th inst. The Mayor (Alderman Underwood) presided, and among those present were the Mayoress, the Rev. T. C. Deeming, Messrs. W. S. Fulshaw, W. P. Meadows, T. Carter, J. Cooper, T. B. Widdowson, J. Waterfield, H. Weston, J. Underwood, and G. Munday, Miss E. Chester, Mrs. Fulshaw, and Miss A. Throsby, Mr. H. M. Riley (Hon. Secretary), and Mr. H. M. Riley, jun.

To the annual report, which was taken as read, was appended the balance-sheet for 1892, from which it appeared that the year commenced with a credit balance of 8*l.* 8*s.* 3½*d.*, and ended with an almost precisely similar balance.

The meeting next proceeded with the election of officers for the year 1893, and the Hon. Secretary, Mr. H. M. Riley, having intimated that it would be impossible for him to continue to act as Secretary, the Mayor remarked that the Society was very much indebted to Mr. Riley for his useful services; he had brought the Society into a solvent condition with a considerable balance in hand. After some discussion, Mr. H. M. Riley, jun., was appointed Secretary, on the understanding that he would receive the support of his father. Mr. H. M. Riley was appointed Treasurer for the ensuing year.

The following were elected to form the Committee:—Revs. M. A. Thomson, Thistleton, and T. C. Deeming; Councillor Bowles, Miss E. Chester, Miss A. Thorsby, Messrs. T. Carter, L. Fosbrooke, W. P. Meadows, J. Cooper, T. J. Clarke, T. B. Widdowson, Fewkes, and C. Redshaw. Mr. G. Munday was appointed expert for the ensuing year.

The Mayor then distributed the prizes won during the year at the Agricultural Show and the Abbey Park Show, after which Mr. Riley moved a vote of thanks to the County Council for their grant of 50*l.* Of that sum 42*l.* had been spent, the greater part in lectures in different parts of the county. He hoped the Council would see their way to increase the grant to 120*l.* or 150*l.*, so that a permanent qualified expert could be engaged. The resolution was adopted.

The Mayor testified to the interest he had taken for many years in bee-keeping. He used wooden hives forty years ago with little windows and zinc slides, so that he could observe the insects' habits. He wished their Society every success. With the grant from the County Council they ought to be able to diffuse their influence throughout the county. He considered that the grant of 50*l.* was a good beginning, and he hoped they would succeed in securing an increased amount.

A vote of thanks was passed to the Mayor, and Mr. Meadows then gave an interesting address on the "Wells" hive, one of which he exhibited and sold to the Mayor. — *Communicated.*

ASSOCIATIONS IN SURREY AND DORSET.

It is proposed to form an Association in the district of Warlingham, in Surrey Any bee-keepers or others interested and willing to assist are requested to communicate with Dr. H. H. Church, Sunny Bank, Warlingham, Surrey.

Bee-keepers in Dorset will be glad to hear that an Association is also being formed for the district of Sherborne. Any willing to assist in any way or join should communicate with Mr. G. Seeding, Bradford Abbas, Sherborne, Dorset.

PROPOSED BEE-KEEPERS' ASSOCIATION FOR NORTHUMBERLAND AND DURHAM.

In furtherance of this proposal we are requested to state that a public meeting will be held at Lockhart's Café, St. Nicholas Square, Newcastle-on-Tyne, on Wednesday, May 3rd. Invitations are being sent to all the local bee-keepers whose addresses are known, but it is hoped that any of our readers in the locality who may not have received one will nevertheless attend. Business will commence at seven o'clock, preceded by a tea at six o'clock, at which all have the option of joining (Lockhart's prices). Communications on the subject should be addressed to the Hon. Secretary, Northern Allotment Society, 40 Dean Street, Newcastle-on-Tyne.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1408.] The weather is still fine and dry. It is now fifty-six days since we had any rain. Yesterday (Sunday) week we had a slight shower in the evening, but not enough to lay the dust; not a single storm during March after the first day, and now not a shower in April! How can May bring forth *fine* flowers? No doubt we shall get abundance of flowers in

May—many that ought not to show bud till June under ordinary conditions—but from the short, stunted growth of the plants I cannot see how the flowers will be fine or full of honey. A high barometer and thermometer, cloudless skies, with easterly winds are the prevailing conditions week after week. The bees have made good progress, and have been busy on the broad range of forage induced by the brilliant sunshine into bloom nearly a month earlier than usual. How it will influence the usual honey-producing plants in June, time only will prove. In those districts which have been favoured with rain, no doubt vegetation is progressing very fast, and where bees are in condition to take advantage of the early honey-flow, we shall hear of early supers of honey being secured.

The season of shows will soon be coming on, and committees or councils will be getting out their schedules. I would suggest classes for small apiaries—say, under five hives—having a class to themselves; and also the cottagers should be scheduled by themselves, and not be expected to compete with the squire and parson; and, above all, do not tie your exhibitors down in the matter of a quarter of an inch of *lace-edged paper* in glazing their sections; this may have the effect of keeping good exhibits out of the show. I consider that every inducement should be given to bee-keepers to exhibit the produce of their apiaries—either honey, wax, or even bees—and that it is a deterrent to impose ridiculous restrictions on exhibitors. I notice in the regulations of the "British," at the next Royal Agricultural Show, that the three-eighths of an inch rule still applies in regard to the width of the lace-edged paper on the face of the section; but after repeated trials to get a paper with a neat edging of three-eighths of an inch wide, I have had to take the kind our Berlin cousins make for other purposes, which is half an inch wide, such as I have used on my exhibits at most of the large provincial and London shows during the last few years; so if I use the half-inch, I am handicapped by a weight, not *a width*, that precludes my exhibit taking a prize.

The subject of self-hivers does not appear likely to be taken up so strongly as some subjects that have been discussed in the columns of *B. B. J.*, such as bottles, standard frames, and lately the "Wells" system of bee-keeping. The subject is a new one which the majority have not given a passing thought to, and the past few poor bee seasons have not induced a lot of swarming. But when we get a return of swarming seasons, as undoubtedly we shall, then the utility of self-hiving appliances will be forcibly brought to the mind of the bee-keeper who bemoans the loss of several swarms which have betaken themselves to the church tower or some other unreachable place. To the few pioneers in the craft who have been working out the problem, each most likely on similar lines, the appliances invented by Mr. Howard in this country and by well-known bee-keepers in America to secure the result so desirable to many of us will most likely be tried by the few in the coming season, and may prove the stepping-stone to a consummation of our wishes in the development of the perfected article in the near future.

I notice friend "H. C. J." (1403, p. 155) does not care much for the nomenclature of the colony in the "Wells" system. Neither do I myself, though I must admit that a spade may as well be called a spade, for a' that. If "H. C. J." purchases any of the hives that have been illustrated in recent issues of *B. B. J.*, he will find that they have been to all intents and purposes designed to hold two colonies, one on each side of the dividing-board, be it a plain or a perforated one; and I contend further that to call the honey stored by these two colonies, though it may be in one super, the produce of one stock will be misleading.

Then, as to nucleus stocks having brood up to the division-board of the "Wells" hive: I had occasion on Saturday last to open a twin-hive of two driven lots last autumn, and each of these was located close up to the division-board (a plain one), with brood up to the board both sides of it, and I heard the other day from Mr. Walton of a case exactly the same. Perhaps in each case it may be the result of the continued heat-wave rather than of either system.

Mr. Taylor's article, as our Editor remarks on page 142, gives the reverse side of the question of self-hivers. Then another Mr. Taylor, in the same number of the *Review*, goes in for revolving hives, hoping to develop a non-swarming system; yet any number of hives can, he hopes, by this system be worked as one colony in socialist style. This Mr. Taylor, of Forrestville, Minn., has no confidence in non-swarming traps or *self-hivers*. Some writers are as hopeful of practical results from self-hivers as others are doubtful.

The Editor of the *Review* has a short article on the "Wells" System. I notice, he says, that the dummy of the "Wells" hive is made of perforated metal—this is a mistake. I think Mr. Wells uses and advocates wood dummies. He also argues that the adoption of the plan is really an acknowledgment that the queen's power is limited, or that we are using too large brood chambers—though he (the Editor) admits that a point is gained by the combined heat of the two colonies in building-up in the spring.

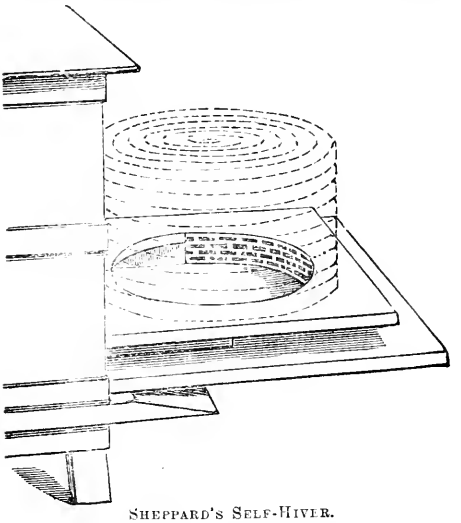
Will those who adopt the system take notes of the state of the bees at the entrance of the "Wells" hives compared to ordinary one-colony hives, and see if the "Wells" hive does or does not save the bees a lot of wing-labour, fanning at the entrances. One would suppose that with a perforated division-board a current of cool air would circulate from hive to hive or from entrance to entrance, especially where the entrances are located near each end of the hive.—W. WOODLEY, *World's End, Newbury*.

SELF-HIVERS AND QUEEN-TRAPS.

[1409.] I have been much interested in reading in the *B.J.* of April 13th (p. 141) the article on "Self-Hivers," taken from the *Bee-keepers' Review*, and gather from it that, in the opinion of the writer, queen-traps will answer far better than any hiver thus far introduced. I shall feel very much obliged if you will say whether there is really any *serious* objection to the use of these queen-traps, which I presume are similar to drone-traps. I have only a few stocks, and it would be very easy for me to place the traps at each entrance before leaving home in the morning and remove them in the evening. I should then feel no anxiety as to possible loss of queen, with swarm, during my absence. But what would be more important and desirable would be the means of telling at a glance which stock had swarmed.

After all, is not a self-hiver an enlarged queen-trap? and, if the first is likely to answer, why not the latter, which is much cheaper and more easily fixed? Of course I should say that it would be absolutely necessary to examine the traps daily; but where few drones are allowed, there would not be much blocking of the passage-ways, more particularly if the trap could be made to extend across the entrance front of the hive. However, I will wait your valuable advice before trying the plan.—H. LIVERMORE, *Enfield.*

[Had there been any "serious objection" to the use of a queen-trap, we may be sure that so experienced a bee-keeper as Mr. Taylor would not have given it his approval. We are not conversant with the special form of queen-trap used in America, but a "trap" cannot in any sense be called a "self-hiver," seeing that the latter, to be true to its name, is supposed to relieve the bee-keeper of trouble in hiving swarms, while the former only prevents the swarm decamping by securing the queen. The objection to the old form of drone-trap (Aston's) being applied for the purpose is its smallness, and the serious way in which it reduces the size of doorways, and thus impedes the free working of such large colonies of bees as are seen nowadays. If, however, the principle of Aston's trap could be embodied in one of larger size, with a sufficiently large receptacle of some sort below to serve as a shade to the swarm, it might perhaps be made to answer the purpose of a queen-trap and swarm-catcher. The points to be borne in mind when considering such an arrangement are to secure a cheap and simple contrivance—easily attached to, or removed from, an ordinary hive—which, without seriously interfering with ventilation, allows plenty of free passage-way to the bees. So far as we can gather, the self-hiver proper, which has so far been most successful in this country in accomplishing its object is that of Mr. Sheppard, which we reproduce here for the benefit of those who are unacquainted with its form. With the above either a frame hive or a skep (as shown in sketch) may be used as a receptacle for the swarm, and should the swarm not have "come off" during the day, it is a very simple



SHEPPARD'S SELF-HIVER.

matter to remove the empty hive in the evening for the purpose of clearing away any dead drones, or for other purposes, such as inspection, &c. We have heard of several swarms being hived last year with the above.

HOWARD'S SELF-HIVER AND SUPER-CLEARER.

Then there is another self-hiver—from which good results are confidently expected — now being brought out by its inventor, Mr. J. H. Howard, whose practical experience both as a bee-keeper and manufacturer ought to give some assurance of its value. It also serves the double purpose of hiver and super-clearer. The above cut shows its form.

TWIN HIVES.

[1410.] I have been greatly interested in reading in the *B.B.J.* week after week about the so-called Wells system, and, with your permission, will give my experience with twin hives. I have four such hives in work at present: the

first I bought in 1888 at the Devon County Show at Barnstaple, and, as it now appears that twin hives are coming again to the front, I may say that I consider it the best hive yet seen. Mine holds eighteen standard frames in brood chambers, parted with a small-hole perforated zinc dummy. I have room on top for two crates of shallow frames or sections, but I prefer two tiers of standard frames to one standard and one shallow. I never have any bother about swarming by giving the queen plenty of room—say, eighteen standard frames, nine under and nine on top, with abundance of ventilation. I have a piece of perforated zinc fixed in the floor-board, with a tunnel underneath the latter. When taking honey, I always pick out the best combs for use in the brood chamber, and melt down the other. I don't believe in keeping old combs for use in brood chambers, preferring to use full sheets of fresh foundation each year. I can get my stocks up stronger in the spring in this way than by using old worked-out combs. I have had splendid takes of honey from these twin hives, one of them turning out as much honey per season with me as three ordinary ten-frame hives. I see a correspondent (1354, p. 87) says that all double hives are "formidable affairs to manage," but such has not been my experience, extending since 1888; but I can't agree with Mr. Wells about the entrances. I like one in front and the other at the end. Bees have never been so strong with me as this year. I never saw them so forward in the first week of April. One stock of hybrid Ligurians quite fill the hive, and I shall have to give them an extra lot of frames.—W. A. S. M., *North Devon*.

DOUBLE-QUEENED HIVES AND THEIR MANAGEMENT.

[1411.] I am sure we have all read your charming account of a visit to the apiary of Mr. Wells at Aylesford with the greatest pleasure. The description presents us with a picture which we all love to dwell upon, and it is satisfactory to know that all the stocks were in such excellent condition. I do not think it necessary to remind you that the month of April is hardly the time for bees to be bad-tempered and unmanageable, nor do I think it necessary to argue whether Mr. Wells is entitled to be described as an expert—I mean a *great expert*—for, accepting your own account of him, I am quite sure his modesty will not suffer if we say he *is* a great expert.

But what strikes me as being important is the description which you give of the system, viz., "the double-queen system," whereas some of us consider it more correct to say "the twin" or "double-stock system." And if we are going to judge of its advantages over the single-stock system by comparison of results, it is necessary to start with a good understanding on this point. For myself, I have no hesitation in saying that the Wells apiary consists of twenty stocks of bees, and if the net product exceeds that of twenty stocks under the management of Mr. Hooker, or of either of our Editors—in which case the difficulty of manipulation will not be considered—on the single-stock system, we shall have no hesitation in making our friend blush by describing him as a benefactor to the human race!

Having myself experienced the difficulty of teaching young beginners how to manage the ordinary ten-bar frame hive, with its sections and supers, and all its various parts, which are always expensive enough to deter many from becoming bee-keepers, and difficult enough of management to disgust many others, it seems only charitable to advise young beginners not to plunge into a system which appears to increase both these difficulties until we have a unanimous verdict in its favour.—THOS. F. WARD, *Highgate, April 22nd.*

P.S.—I note another failure in last issue, 1403, p. 155.

AN EARLY SWARM.

[1412.] The enclosed cutting is from the *Pall Mall Gazette* of to-day's date. I thought perhaps it might interest some of your readers who keep records.—LOWER EDMONTON, *April 21st.*

"A letter from Sevenoaks chronicles a swarm of bees near that place. The fine weather which we have been enjoying, and more especially the high temperature of the last few days, has, of course, been the cause of this; for, although the eggs of the bee are frequently hatched in small numbers in the spring, and even earlier, it is seldom indeed that a swarm takes place before the later spring months, as, until then, the weather is not usually sufficiently warm to cause the hatching of the eggs in large numbers, and in so short a space of time as to cause a general exodus, known as swarming, of this useful insect. There is an old saying, 'A swarm in May is worth a load of hay, a swarm in June is worth a silver spoon, and a swarm in July is not worth a fly;' but we are not told what is the value of a swarm in April. At any rate, such an event is not in the recollection of the inhabitants of Sevenoaks."

BEE-KEEPING AS TAUGHT IN SCHOOLS.

[1413.] The enclosed somewhat modifies the statement published in the *Standard*, and inserted in the *B. J.* for February last (p. 75):—

EXTRACT FROM LETTER TO "E. D. T."

"Hearing that there was a school teacher not far from here (Darmstadt) who was a very successful bee-keeper, I paid him a visit a few days ago. This gentleman informs me I am mistaken in thinking that the Government brought any pressure to bear upon teachers regarding their taking up bee-keeping, &c. He says that most

teachers, like himself, first took up whatever branch they may pursue as an amusement, and profitably followed it with energy. He himself at one time sold as much as 16 cwt. of honey in a season. He told me that in former days masters from all the villages round about used to visit him to profit by his experience; he was also at one time a travelling teacher for a bee-keeping Association, having its headquarters at this town, receiving six marks a day and travelling expenses (very high pay for Germany).

"From what he said, I gathered that neither farmers nor their wives had, as a rule, time for bee-keeping or careful poultry-farming, all their labour being needed for the field. Farmers, as you know, employ little labour here, working their farms by means of their wives and children; but still, this gentleman and the chief of the Agricultural Department said that undoubtedly the fact of teachers turning their attention to such industries had had a very beneficial effect, the innumerable agricultural societies started for the encouraging of every branch of agriculture finding ready agents in them for disseminating particulars of new methods, recent discoveries, &c., besides their value as mentioned in my last letter as models.

"I found that the teacher I visited was fully acquainted with the methods of bee-keeping in vogue in the principal countries in the world, the different kinds of hives used, &c.—all this learned by means of the reports of the bee-keeping Associations."

I send the above thinking you might deem it of sufficient interest for insertion in the *B. J.*—E. D. Till, *Eynsford, Kent.*

WAGES OF LABOURERS.

[1414.] Is not Mr. Woodley (on p. 137 of *B. J.*) making some mistake as regards the rate of wages of agricultural labourers in his county? In mine they get from 13*s.* 6*d.* to 18*s.* per week, with extras during haymaking and harvest, and, in addition to these, the wife and bairns get a good extra haul at hop-picking.

One of my two hives is already working well in supers, so I hope we shall all have a good honey harvest.—East Kent, *April 21st.*

Echoes from the Hives.

Hanley Castle, Worcester, April 18th.—I am pleased to say my sixteen stocks of bees have wintered well—better than usual, and at the present time are exceptionally strong in numbers. Hives that were very light in weight three weeks since are now quite heavy with the new nectar from the fruit-blossoms. They have not been supplied with liquid food, only soft candy up to six weeks ago. To-day I went round the hives to remove empty candy-boxes, when to my surprise I found one had been nearly filled with new comb and honey. This I have supered. At our Association's annual meeting on Saturday I was told there was great mortality amongst the bees this spring in the neighbourhood of Evesham. Could this be owing to the spraying of fruit-trees with a solution of Paris green? I am not aware of any undue mortality in my own apiary.—Chas. H. Haynes.

Northampton, April 23rd. — The current month promises to be as dry as its predecessor, for "up to date" only ·25 inches of rain has fallen. Of this small quantity, ·12 inch fell last Sunday after dark. Monday was dull and cold, and, much to my surprise and disgust, five of my stocks indulged in a bout of infanticide and fratricidal ostracism. Subsequent examination proved that neither lack of food nor space gave rise to this untoward outbreak. Chill, again, could not have been the cause, as that would not have necessitated the expulsion of mature and aged drones. I'm puzzled. On Tuesday temperature rose again, and though the drought is unusually severe, bees are doing well, supers are on, and in one case I hear that sections have been taken off. There are a few cases of reported queenlessness; but, speaking generally, stocks are at least five weeks forwarder than they were at this time last year. Apple blossom is the chief source of income just now.—E. B.

Queries and Replies.

[757.] *The Wells Perforated Divider.* — The account of the editorial visit to Mr. Wells' apiary on p. 151 of *B. J.* for April 20th will be welcome to many. Will you allow one more question about the thin wood dividers? The difficulty of course is to prevent warping, and Mr. Wells has told us that he relies on an edging of tin. I have never been able to understand how this can be applied so as to act as desired. In your description of the divider there is no mention of strips of tin If these have not been abandoned, will you kindly let us know more about them?—South Devon Enthusiast.

Reply.— The divider is bound on three sides by tin strips, but the perforations prevent warping.

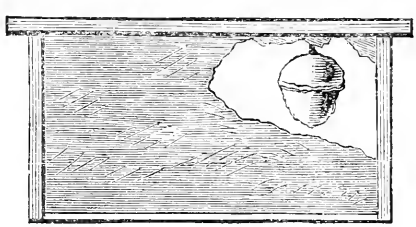
[758.] *Queen-traps.*—Can you tell me what the queen-trap is which is spoke of so favourably by Mr. Taylor in your quotation from the *Bee-keepers' Review*, on p. 142? I have not seen such a thing in any bee catalogue. I presume it is not what we call a drone-trap—which, by the way, is an article I have never used. I have an apiary some three miles from home and not being able to be there much in the daytime, I suffer from the loss of swarms. I do not see that any of the self-livers as yet brought out

would answer in my case because the bees are in a lock-up house or shed, each hive having a separate entrance through the (wooden) walls of the same, and they are, moreover, on two shelves, one above the other. I should be glad to hear of an inexpensive method of trapping the queen, such as that referred to in the above article. Can you make it clear?—S. W. R., *Berks.*

REPLY.—The queen-trap referred to by Mr. Taylor is an American arrangement, fixed to the outside of hives, by means of which queens attempting to lead off swarms are captured and not allowed to re-enter the hive. We think there would be no difficulty in our appliance-makers devising such a trap if a demand for it arose.

[759.] *Wasps' Nests about Beehives.*—1. I found the enclosed under the roof of one of my hives. Will you kindly tell me through the *Journal* what it is? Perhaps it may be interesting to readers of the *Journal* to describe it. 2. Can you tell me the reason of so many young bees and young drones being thrown out half dead from one of my frame hives? They have plenty of stores, and are very warm and strong. 3. Does any expert travel through the Isle of Wight—and his address, please? By so doing you will oblige—A. E. JAMES, *Ryde.*

REPLY.—1. The "enclosed" referred to is a wasp's nest in an early stage of construction. They are not at all uncommon about hive roofs, bee-houses, and such-like places, besides being not seldom found built inside empty hives when the latter are left untenanted with entrances open. The cut below illustrates the way in which a wasp's nest is built on the underside of



an empty frame. 2. It is very difficult to account for the way in which young, just hatched bees crawl or are cast out of hives in spring. Such things, however, do occur every year in some apiaries from causes sometimes accountable, but more frequently when no valid reason can be offered for it. It may be said that the warmth tempts the baby bees outside, and the slanting alighting-board forms a precipice down which they roll, never to return. Anyway, in the case referred to by our correspondent, when the stock is strong with plenty of stores and warmly packed, we give up guessing. 3. Mr. J. J. Candey, Landport, Isle of Wight, will inform you as to expert work in his county.

[760.] *Remedying Faulty Combs.*—Two of my frame hives have each two or three combs in middle of brood nest that are very uneven, in one case two combs being joined firmly together. Can you advise me as to how I can replace them with new frames without destroying the brood? They are too bad to gradually move to the side of the hive, for they will not fit near a straight comb.—F. HOWELL, *Dorset, April 21st.*

REPLY.—It is quite impossible to remedy the mischief complained of without destroying brood. In fact, every faulty comb will reproduce its faults on the comb built next to it unless the uneven surface can be pared down and made straight before inserting a sheet of foundation in the adjoining frame. This being so, advantage must be taken when the distorted combs are broodless to either remove them altogether or repair them as stated.

[761.] *Carniolan Bees and Increase.*—1. I should be glad if you would tell me what breed the enclosed bees are. 2. I have a nine-framed stock of the same, and want to make as many stocks during this season as possible, as I want bees and *not honey.* Seven of the frames are filled with brood in different stages; can you assist me, or have you one of your *Journals* with instructions how to act? I should add that the queen of the stock referred to was bred last June.—CHARLES GRANT, *Merton, April 17th.*

REPLY.—1. The bees sent are well-marked Carniolans. 2. In view of the facts, (*a*) that seven of the nine frames are "filled with brood," (*b*) that the bees are Carniolans, and, (*c*) that the weather just now is more like June than April, we should say it is very probable that a natural swarm will issue shortly; and, if this occurs, the swarm might be set on the old stand in a new hive, while the combs and brood of the parent stock are divided into lots of three frames, with a queen-cell for each, and established as nucleus colonies. To give full instructions for dealing with nuclei—beyond saying that each lot will require to be confined by division-boards, warmly wrapped, and fed—would occupy too much space. The *Guide-book* or some other work on bee-keeping would, therefore, have to be consulted.

[762.] *Supering Wells Hives.*—On Saturday, the 15th inst., I placed two strong stocks in a "Wells" hive and they settled down quite amicably. How *soon* after putting two stocks together in this way may supers be put on?—H. LIVERMORE, *Enfield.*

REPLY.—We should say that a week or ten days would be ample time for the bees to acquire an odour common to both.

[763.] *Moving Bees in April.*—My neighbours complain of my bees being too near their gardens, and I should rather move them if I can do so with safety, but cannot manage a greater distance than twenty yards. 1. Do you advise me to move them? 2. Can I change the frames and bees of one hive into a new one I am having built, as the old one is not weather-proof, and I can only put one crate of sections on it, while

the new hive will hold two? 3. What is the proper sugar to use for syrup? I have tried preserving and Porto Rico—the bees don't seem to like the last-mentioned so well.—L. C., *Wylde Green, Warwickshire.*

REPLY.—1. It is a bad time of year to move bees twenty yards, but, if compelled to do so, it might be well to read the particulars regarding moving given by Mr. John Walton on p. 158 of last week's *B. J.* 2. Yes, so long as the frames of both hives are same size. 3. Refined pure cane sugar is best for syrup; Porto Rico is only used for "dry-sugar feeding."

[764.] *Buying Diseased Bees.*—A few months ago I bought three hives of bees from a person in this village who was leaving here. Yesterday they were examined by a neighbour who understands bees, and he tells me that they are all affected with foul brood—two very much so, and one only slightly. As I am quite inexperienced in bee-keeping, I am venturing to ask if you would kindly advise me as to what I should do. Is there any way of curing this disease, or ought I to have the bees destroyed at once? The hives are wooden frame hives. I shall feel very grateful if you will advise me as to the best course to pursue.—E. W., *Bledlow, Bucks, April 21st.*

REPLY.—The "neighbour who understands bees" will, no doubt, be able to advise as to the best course to pursue, as he has seen the stocks. If the two badly affected hives are weak in bees, destruction is the best course. If they are strong enough to be worth saving, they might be removed from the diseased combs and united so as to form one lot for putting in a clean hive on full sheets of foundation, and afterwards fed on medicated syrup. The hives in which the bees now are will require thorough disinfection before being again used.

[765.] *Size of Brood Chambers — Salicylic Acid Solution.* — I have three movable-comb hives, and as they contain fairly strong stocks, I intend trying the storifying system, but being only a young hand, I should like to ask: 1. Should the bottom hive, or brood chamber, be filled with combs to its full capacity, or only a limited number left for breeding? One of the hives holds fourteen, and the other two eighteen combs in each; the bees now cover ten and twelve combs respectively. 2. When should I commence storifying? 3. What strength should salicylic acid solution be for spraying combs and mixing with syrup? 4. Do you recommend artificial swarming, or allowing the bees to swarm naturally?—G. G., *Cardiff.*

REPLY.—1. Ten, or at most twelve, standard frames are sufficient for brood nest. 2. The stock with bees covering twelve frames now should be ready for supering as soon as honey can be had. 3. Salicylic acid solution, for spraying combs:—Acid, 1 ounce; soda borax, 1 ounce; water, 4 pints. For medicating bee-syrup, use one ounce of above solution to ten pounds sugar. 4. Natural swarming is far preferable for a beginner.

Notices to Correspondents and Inquirers.

W. J. C. (Stockwell).—*Queen found Dead in Cage.*—We can gather nothing from the details given which will enable us to say more than that the queen was probably starved to death with cold, in consequence of the cage not being surrounded by bees. Nothing is said as to whether the foul-broody stock built out the combs from the foundation, nor is the strength or otherwise of the stock stated. But the natural inference is, that the stock was a poor one with not many bees, and the latter being themselves in an abnormal condition, they let the queen die of cold and neglect.

H. C. FENTON (Basingstoke).—Comb sent contains only dried pollen, the sealed cells with sunken cappings is simply honey capped over. There is no trace of foul-brood, so if the other combs are similarly free, there is no reason why the bees should not be "united" as proposed.

G. B.—*Honey and Rheumatism.*—So far from the use of honey tending to increase rheumatic trouble, it is supposed to have just the contrary effect. Indeed, we have personal cognisance of a case in which the use of sugar was given up and honey substituted with very beneficial effect.

W. MORRIS (Kidderminster).—*Re-queening.*—Judging by the past history of the stock, it is doubtful if the bees would raise a queen from eggs given. Besides, is it quite certain that the queen's supposed decaying powers are the real cause of the stock dwindling, and that disease is not at the bottom of the mischief? The bee-keeper who advised re-queening might give his opinion on this point after inspecting the hive.

CLARA SOLLAS (North Finchley).—*Suspected Queenlessness.*—Beyond searching for the queen, there is no means of deciding whether the stock is queenless, other than by examining the combs for brood or eggs. From the other details given we fear there is more than a suspicion that the weak stock is not in healthy condition.

T. G. BEVAN (Ellesmere).—The advertisement in each issue of *B.J.* makes it clear that the dealer referred to is still in business.

HY. ROGERS (Kings Norton).—Messrs. W. H. Smith & Son take a large supply of the *B.J.* weekly, so if ordered beforehand there will be no difficulty in obtaining the paper.

M. THOMAS (Hawkhurst). — *Dead Brood in Combs.*—So far as the mischief has gone, it is only a case of "chilled brood." Have the hives been overdosed with any remedy used as a preventive of foul brood? We ask this question because of having seen the results of such treatment, where the brood was forsaken by the bees and left to die.

*** *Several Queries, &c., are held over till next week.*

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WANTED.—Apparatus, &c., connected with Bee-culture. Also Curios, Specimens, Honey, Wax, Cells, &c. Address BURNS, Westfield House, Fulham.

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GOOD 10-frame Hive, not Association size, with Section Crates, 5s. Also other Section Crates and Wood Super for Skeps. Address KAY, Waltham, Gt. Grimsby. A 11

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ON SALE, a lot of Hives, two Observatory Hives, Extractor, and other Appliances, Cheap. Apply DANIEL, Croft Mill, Chorley, Lancashire. A 15

STOCKS.—Two very Strong Stocks for Sale, in good Regulation Frame Hives. Address WILSON, 15 Wells Road, Sydenham. A 16

FOR SALE.—Skeps of Bees, 12s. 6d. each; Early Swarms, 10s. 6d.; Packing, 1s. extra, but after May, free. Wanted, 4×4½ Sections. Address, A. T. WILMOT, St. Albans. A 18

FOR SALE.—Four Hives in good condition, Frames, Sections, and Smoker. Any reasonable offer taken. Photos three stamps. Apply, WHITLOCK, Photo, West Bromwich. A 19

WANTED.—Drawn-out Sections (any size), Standard and Shallow Frames. Address, KAY, Park Cottage, Wilmington, Kent. A 20

FOR SALE.—A few Swarms; also Stocks in Second-hand Hives. Address, GEO. CHILDE, Semington, Trowbridge. A 21

FOR SALE.—Strong, Healthy Stocks of Bees in Neighbour's Large Skeps, 16s.; on Standard Frames, 18s. Address, J. S. WEBB, Nymett House, Parkdale Road, Plumstead. A 22

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THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 567. Vol. XXI. N.S. 175.] MAY 4, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

Continuing our hints of last week, there is not much change to chronicle in the weather. Rain so badly wanted still keeps off, though as we write a slight sprinkling has visited London and the suburbs, and the clouds are gathering fast enough to forecast a much-needed change ere long. We hear of rain in the north as well as in Scotland, so it is evidently "about."

Bees are still working busily in the apple orchards and on the horse-chestnut now in full bloom, along with many other honey plants not usually looked for till the middle or end of May. The cooler temperature of the last day or two has, however, caused surplus storing to slacken off somewhat.

THE EARLY HARVEST.—We were not a little amused a couple of days ago to hear a cottager bee-keeper quite gravely speaking of the honey harvest in his district being over for this year. "You may laugh," said he, "but bees get nothing much with us after the apple-bloom, and *that* is now nearly done." Fancy the honey harvest being over on the 29th April! However, he had secured a straw "cap" of honey, and a dozen or so of sections as his harvest for 1893, from his couple of hives. Since last week several good "takes" of sections have been reported and more "samples" brought to this office for inspection, so there is no mistake about the past few weeks having yielded an exceptionally good early harvest in some districts. This fact and the knowledge that bees are breeding very rapidly has afforded an excellent opportunity for lessening the chance of swarming by giving plenty of surplus room before preparations for emigrating have been started by the bees. Hives with two or three stories of shallow frames or racks of sections have had their brood chambers relieved from anything like overcrowding, and consequent development of the swarming impulse, while the activity of the bees has been gratified to the fullest extent.

"WELLS" HIVES.—We continue to receive queries regarding these, and in view of the nature of some inquiries sent, again strongly impress upon readers—who have so far made acquaintance with only the most elementary details of the double-queen system—the necessity for making an effort to master the important points essential to the successful carrying of it out before trying the plan at all. Otherwise failure is almost sure to follow. We have no hesitation in saying that inquirers are far from being prepared for a *safe* stocking of their "Wells" hives, whose present knowledge carries them no further than asking if a queen-excluding dummy of the ordinary excluder zinc will not be better than one of perforated wood? Referring to the latter, we append some details intended to follow the remarks on p. 153 of *B. J.* for April 20th:—The divider is finished off by binding it on three sides with strips of tin, which makes it stronger and more durable. It is important to burn the holes after the first boring for several reasons, and this "burning" is done very rapidly by Mr. Wells, who has half a dozen of the "sharpened-wire" tools in use, and all "heating" at once. He withdraws one from the fire, and, while red-hot, passes it through several holes; then uses another, and so on till all are gone through. The burning leaves no "burr" on the holes to irritate the bees.

It is satisfactory to know that many who claim to be little more than beginners are doing very well with their double-queened

hives, and are fully alive to all the care needed in managing such hives. There is also, so far as we can gather, no attempt at rushing into the Wells system to the exclusion of ordinary methods. The rule appears to be a limiting of trials to one, or at most two double-queened stocks, so the system will have a fair trial in many hands without a deal of either trouble or expense on the part of experimenters. A few will no doubt make a failure of it, as some do with ordinary methods, but even the failure will not be a serious one.

AGE AT WHICH VIRGIN QUEENS MATE.—Mrs. Jennie Atchley, who is known as one of the most extensive queen-raisers in America, writes in the *American Bee Journal* regarding the age when virgin queens mate :—

"On page 916 of *Gleanings* for December 15th, 1892, Mr. Wilder Graham says that a queen must mate in twenty-one days, or she never mates. Will Mr. Graham please excuse me, when I say that he is wrong again? Now just listen, and I will show where he is mistaken, and I will tell just when a queen is past being impregnated.

"First I will say, that a good many years ago, when I noticed a good deal said on this subject, it put me to experimenting. I have reared queens in November, kept them till the next March, and had them mate and lay all right; and it was not only one queen, or two, but, I think it will be safe to say I have had a hundred so treated; and all of them, with a few exceptions, have proved to winter over as virgins, and then mate in the spring, and be just as good as any of the rest. These queens were never allowed to fly at all, as an excluder was placed over their hives before they hatched, and remained there till spring.

"Right here I will relate a lesson that I learned in these operations, that I probably never would have learned any other way. Now listen closely.

"I noticed that every single queen that became stimulated for egg-laying never became impregnated, but was always a drone-layer; and every one that retained her virgin size, and did not partake of any food to stimulate her, went right through, and became mated in the spring, and laid right off and made a good queen.

"Some virgins became stimulated for egg-laying much younger than others; and I now see that whenever *any* virgin queen is brought up and stimulated by the bees, or by partaking of a sufficient quantity of the food that prepares her for egg-laying, she is *never* fertilised. So I now firmly believe that a queen is rendered incapable of becoming fertilised, or else she never cares to fly for that purpose, and I would not be surprised if it ruined her for ever, to begin laying before she is ready, or before she is impregnated.

"My idea about when a queen is too old to be fertilised is, when she partakes of the stimulations that cause her to begin to lay. Some well-developed virgin queens will become stimulated right in midsummer, before they are mated, hence drone-layers. Some young queens will lay drone-eggs for awhile when they first begin to lay, and then lay worker-eggs right along; but, mind you, these queens were mated before they began to lay. Only made a mistake, or the stimulation from the male had not thoroughly developed at the time when she was ready to lay. One of these two reasons is apt to be the cause of her laying drone-eggs first. This little bit of experience of mine causes me to say that I think a second mating of a queen is one of the impossibilities in beedom."

The above remarkable theory, while interesting from a scientific standpoint, must not be accepted without considerable reserve, seeing that it upsets preconceived notions as to mating.

It serves, however, to show the curiosities of bee-work, and the divergences necessary in treatment in different countries. Mrs. Atchley, located in Texas, U.S.A., rears queens in November, and has then mated the following March! We wonder what our British queen-rearers will say to this? Anyway, the lady who makes the statement is no novice in queen-rearing, seeing that in 1892 she raised nearly three thousand queens.

BRITISH BEE-KEEPERS' ASSOCIATION.

The Committee of the British Bee-keepers Association met on Wednesday, April 19th, at 105 Jermyn Street, S.W., the members present being Mr. T. W. Cowan, Hon. and Rev. Henry Bligh, Rev. Dr. Bartrum, Rev. G. W. C. Bancks, Captain Campbell, Major Fair, Messrs. W. B. Carr, J. Garratt, J. M. Hooker, J. H. New, W. J. Sheppard, and E. D. Till.

Dr. Bartrum moved, and Captain Campbell seconded, that Mr. T. W. Cowan be elected Chairman for the ensuing year. This was carried unanimously.

The minutes of the previous meeting were

read and confirmed. The Chairman announced that the Hon. and Rev. Henry Bligh did not wish to be re-elected Vice-Chairman, a position which he had held from the earliest days of the Association, explaining that his removal from Middlesex to Hampshire would prevent his attending the meetings regularly. He proposed, Mr. W. B. Carr seconding, that a vote of thanks be given to Mr. Bligh for his long and valuable services to the Association. This met with the unanimous and hearty consent of the meeting. It was moved by the Chairman, and seconded by Captain Campbell, "That Mr. McClure be elected Vice-Chairman," which was unanimously agreed to. The Treasurer's statement showed a balance in hand of 14*l.* 11*s.*, and it was ordered that cheques be drawn as follows: W. Cartmel, 5*l.*; and Secretary, on account of salary, 10*l.* An account of the Chicago Exhibit Fund was presented, which showed that donations to the amount of 16*l.* 15*s.* 6*d.* had been promised, and that the expenses would probably amount to not less than 35*l.*

Letters were read from Sir James Whitehead, Bart., M.P., acknowledging and accepting his election as a Vice-President of the Association; from the Rev. L. L. Langstroth, Dr. Dzierzon, Pastor Schönfeld, M. Bertrand, M. Dennler, and M. Gravenhorst in acknowledgment of their election as Honorary and Corresponding Members.

The several Committees, *i.e.*, Finance, County Associations, Educational, and Exhibitions, were formed. It was decided that Mr. Garratt should attend the Royal Agricultural Show at Chester, to assist Mr. Huckle in the work of the Bee Department. The financial condition of the Association was taken into consideration, and it was decided that a Committee of the following members should be appointed, viz., the Chairman, Mr. W. H. Harris, Mr. McClure, and Mr. Garratt, to draw up and issue an appeal for funds to the Press, and also to the Life Members.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The annual meeting of the Scottish Bee-keepers' Association was held on Wednesday, April 26th, in M'Innes' Hotel, Hutchinson Street, Glasgow. Colonel R. J. Bennett, Alloway Park, Ayr, presided over a good attendance, which included, among others, Rev. R. M'Clelland, Renfrew; Mr. W. Wilson, Dumfries; Mr. James Johnson, Stirling; Mr. James Ross, Stranraer; and Mr. John Wishart, secretary, Melrose. The second annual report stated that since the last general meeting four local Associations had become affiliated to the S.B.K.A., making seven in all. Affiliated Associations had, through the generosity of Lady Gibson-Carmichael, received silver medals to be awarded at the local shows. They will be again offered by her Ladyship this year on the same conditions as formerly. Lectures on apiculture had been delivered during the past season by the Hon. Secretary, Sir Thos. D. Gibson-Carmichael, Bart., at Newlands and Kirkurd; by Mr. T. B. Blow at Inverness; and by Rev. R. M'Clelland, of Inchinnan, at Alexandria, before the Vale of Leven B.K.A.

The Chairman, in moving the adoption of the report, congratulated the meeting on the prospect of a good season. This year the Association had made arrangements to hold three shows. One in connexion with the Highland and Agricultural Society in Edinburgh in the last week of July, the second in Glasgow in connexion with the Horticultural Association of the West of Scotland on the 6th September, and the third in Edinburgh on the 13th and 14th September in connexion with the Royal Caledonian Horticultural Show. In this way they hoped to stir up the general bee-keepers throughout the country. They anticipated from the fine weather that it would be a capital year for honey, and he hoped, as a result, more hives would be kept. The great matter was to keep pure honey, and to prevent the importation to this country of the spurious article. A few years ago he had been the means of returning two tons of the latter, which had come from America to Glasgow. It had eighty per cent. glucose, ten per cent. honey, and ten per cent. sugar. In this connexion the Chairman intimated that Mr. J. Falconer King, F.C.S., analyst to the City of Edinburgh, had been appointed official analyst to the Association.

The office-bearers were then elected, the Marquis of Lothian being reappointed President, and Sir T. D. Gibson-Carmichael, Hon. Secretary. The meeting shortly afterwards terminated.

TECHNICAL INSTRUCTION IN BEE-KEEPING.

One of the most popular lectures in connexion with technical education was delivered in the National Schoolroom, Winterton, North Lincolnshire, on Friday, April 14th, by Mr. W. C. Brown, of Appleby (certificated expert of the B.B.K.A.). Dr. Goodworth, C.C., occupied the chair. Mr. Brown called special attention to the anatomy of the honey-bee, modern humane bee-keeping, and the poor man's hive and requisites. For fully two hours the lecturer interested his audience by practical illustrations of the habits and customs of bees and their gathering of honey. The more modern and scientific treatment of bees during the winter months, and the time of securing the honey, were ably demonstrated. The main idea of the lecture was to show to the bee-keeper how to succeed in making bee-keeping a profitable and paying concern. In the latter half of the lecture the anatomy of the bee, ancient and modern hives, and bee-keepers, were profusely illustrated by the aid of forty-five micro-photographic and other lantern slides. Thanks to the lecturer and chairman closed a specially instructive lecture.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

UNITING BEES WITHOUT FIGHTING.

[1415.] For many years I have been trying to find out in what way beehives are best placed so that they may be united without fighting and without trouble. About twenty years ago a friend of mine had his beehives divided by perforated zinc; he, unfortunately, died before the system was properly tested, and after his death the bees were given up; but I remember that he told me the plan answered very well.

I have been much interested in Mr. Wells' system, as I have found from experience that if we can bring bees together so as to give the two stocks the same smell, or at any rate to get them accustomed to the smell of each other, that the chances of fighting are very much lessened.

In your *Journal* of April 20th I have read with much interest the account of your visit to Mr. Wells' apiary, and I feel sure that the clustering of the bees together in winter will induce early breeding, and in that way must very materially strengthen the hives; and so convinced have I been in the success of the system that I have this winter made a double hive for my own use, and I took the earliest opportunity at the end of February, on a warm day, to stock it. We have certainly had splendid weather, but I have never during my long experience, as far as I can remember, seen two stocks now placed in this hive so strong at this time of the year. The length of this double hive is 4 feet 6 inches. Each end holds sixteen frames. The entrances of the hives are at the end, and are at present eleven and eight inches long respectively, while a crowd of fanners are at each end; but for the last day or two I have thought it necessary to give extra ventilation.

In your description of what you saw, some of the entrances were stated to be without any division, except a flat slip of wood. I think this will prove to be a mistake. For some years I had hives the porches of which were joined by a passage two feet long and four inches broad. The bees seemed to pass through it, but I lost two or three young queens, which had evidently gone out to mate, and on their return went up the passage instead of entering their hives. A very experienced bee-keeper warned me I should lose young queens. I told him I had done so. In future I closed this passage at such times, and lost no more. I feel sure a projecting division is needed, and it would be an additional safeguard if the entrances were painted different colours.

I do not see any advantage in the bees of both hives working together in the same super, as I think the same amount of honey would be deposited in two smaller supers containing together the same number of sections. The main advantage in this system is the clustering of the bees together in winter.

All bee-keepers should, I think, be much obliged to Mr. Wells for telling us the result of the experiments he has made. There are very few who do this, and we should all get on faster if they did.—F. McC., *Ecclefechan, N.B.*

QUEEN-TRAPS FOR PREVENTING RUNAWAY SWARMS.

[1416.] I am very much obliged by your answer to my letter (1409, p. 165), but fear I did not make myself sufficiently clear.

The point I wish to raise is a most important one, I feel sure, to hundreds of bee-keepers besides myself, and it is this. Would any harm result from having a queen-trap fixed the entire length of entrance, which would simply catch the queen should she attempt to come out with a swarm? Personally, I do not want a self-hiver, so long as the queen is caught, as I presume that the bees composing the swarm would return on finding the queen not with them. I fail to see that there would be practically more trouble in dealing with a stock from which a swarm had issued and returned, than there would be with one from which a swarm had come out and been caught in a self-hiver. If a simple queen-trap answers its purpose, the presence of the queen would show that the particular stock had swarmed, and the bee-keeper could then make a swarm or deal with it as he wished.

The drawback of *all* the self-hivers I have yet heard of or seen is that additional hives, &c., are required, whereas, if a mere queen-trap will do, expense and trouble are greatly lessened. I have procured a queen-trap from a well-known dealer, and shall have gained practical experience by the end of the season. In the meantime, I, with many others, would esteem your opinion as to whether any harm is likely to result from the queen being trapped and the swarm allowed to pass through and return at will.

On examining my Wells hive a week after placing two stocks in it, I found the perforated divider had seriously buckled, and although, as far as I could see, the queens had not passed by, yet the combs on either side were rendered useless for breeding. I fear that unless this

difficulty can be overcome, there will be more failures than successes with the Wells hive.

Would it not be possible to substitute something else instead of wood, which would not buckle? If metal is not suitable, would vulcanite stand the heat and at the same time be acceptable to the bees?—H. LIVERMORE, *Enfield, April 29th.*

[No harm whatever would follow the capture of queen in trap. There must be some serious fault in the perforated "Wells" divider you have. We have seen several of those made by Mr. Wells himself, and in none of them was there the slightest tendency to "buckle." Refer to what is said on the subject in "Hints" on another page of this issue.—EDS.]

SYRUP AND STANDARD BOTTLES.

WEIGHT COMPARED WITH SPECIFIC GRAVITY.

[1417.] It may be of interest to some of your readers who may require to make a certain quantity of syrup only to know that twelve ounces of water added to fourteen ounces of sugar (refined) will make just about twenty-one fluid ounces of syrup; that is to say, fourteen ounces of sugar by weight will only measure nine ounces in the fluid state.

I find that a nominal one-pound bottle holds half a pint up to the shoulder, and ten and a half ounces when quite full; the specific gravity of the honey we produce about here compared with water measures 675 to 1000, so that the nominal pound bottle holds nearly fifteen ounces of honey, and if quite full holds over fifteen and a half ounces; consequently Breffit's actual one-pound bottle, holding twelve ounces, would contain from nearly eighteen to eighteen and a half ounces of honey; but then, again, honey differs in specific gravity. So I would ask, How would it be possible to fix upon a standard bottle holding any particular weight? If a standard bottle is fixed upon, it must be one of fluid capacity, such as the present half-pint or nominal one-pound bottle.

I mention this matter again because some of your correspondents appear to think the B.B.K.A. are taking the matter of a standard bottle up.—A. G. WILMOT, *St. Albans, April 24th.*

BEES ATTACKING FOWLS.

[1418.] I have been a bee-keeper and a constant reader of the *B. B. J.* for the last six years, and having just now had rather a singular and very unusual experience with my bees and fowls, I send you particulars of what transpired, as it may serve as a caution to others. I have twelve stocks of bees, all in frame hives, on the grass-plot close to my cottage, and about seven yards from the hives in front. I had a brood of young chickens one week old, with a hen in a coop. On Monday, the 24th ult., being a very fine day, the bees, at about 11 o'clock, made desperate attack on the hen and chickens, and in less than half an hour they had succeeded in stinging eight chickens to death! I got home about 12 o'clock, and, hearing what had happened, put on my bee-veil and went for the hen, which was still in the coop and defending herself and two chickens which had taken refuge in the coop, the best way she could. She was surrounded by thousands of furious bees, and had I not been pretty well protected, I should have had to clear out quick, as they came at me like a shower of hail. They seemed to have gone mad, so determined were they to sting everything that came in their way. My bees are generally very quiet and have never given me trouble of this kind before. Have you heard of any similar case, and what, in your opinion, was the cause of the attack?—SUNDERLANDWICK, *Yorks., April 24th.*

[There is no accounting for the mischief other than supposing that the chickens scratching about the hives have angered the bees in some way, and on retreating towards the coop had been followed there by the angry bees, only to have the latter further irritated by the old hen in her efforts to escepe from the assailants. It is a great mistake to confine animals or fowls near to hives in warm weather.—EDS.]

THE SEASON IN SOMERSET.

[1419.] Does not the enclosed cutting from an Australian paper, dated March 18th, make one's mouth water? The honey-flow must be a most prolonged one in those parts. Honey prospects here are good at present. I put crates on two hives this day week (20th April), and am just off to add second crates, as the first are just about full. The blossom round about these parts is lovely. — N. LOWIS, *Bridgwater, April 27th.*

The cutting referred to reads as follows:—

"After the furious onslaught by my friend of the Black Swamp, who is so enamoured of the old box hive that he cannot tolerate the man who dares to commend the bar-fame hive, I feel reluctant to arouse his ire by any further reference to bees or bee-keeping. Of course there are blackfellows and blackfellows, and it may happen that some blackfellows even may have the good fortune to be acquainted with the advantages of the modern system of bee-keeping. It is on record that one bee-keeper in South Australia took 900 lbs. weight of honey during one year from one bar-frame hive, and that the average from the whole of another apiary was 500 lbs. per hive for a season."

"WELLS" HIVES.

[1420.] I have one hive on the Wells system as set forth in the *Journal* and the bees therein are filling the supers rapidly, so the "Wells" hive is a success here.—H. O. HUNTLEY, *Henwick, Worcester, April 24th.*

BEES IN HANTS.

[1421.] My bees are very strong this year. I do not remember their being so forward before; the weather the last six weeks has been all in their favour—indeed, I have never known such a glorious March and April before for bees. No spring feeding was required, though I expected to have fed a lot as my bees had scarcely enough to carry them through. They are having a fine time of it now on the fruit-trees. If we do not soon have some rain, I am afraid it will not be quite so well later on, as the grass will soon begin to give out for want of moisture. No rain has fallen for seven weeks, nevertheless bees are as forward as they are sometimes the first week in June.—F. G. Ayling, *Alton, Hants, April 21st.*

EARLY SECTIONS.

[1422.] It may perhaps interest you to know that I have to-day taken twenty sections of most beautifully finished comb honey off one hive. I have not had time to look at my other hives, but hope that they may all be in the same forward state. Last year my first sections were taken early in June, and in 1891 they were either at the end of May or beginning of June. —W. H. Cooper, *Wrotham, April 29th.*

BEE-PLANTS.

[1423.] I have much pleasure in again offering some plants of borage and Canadian balsam to any bee-keeping friends who would like to try them, and will enclose stamps for postage. —H. Crawley, 250 *Canbury Park Road, Kingston-on-Thames.*

EARLY SWARMS.

[1424.] I purchased, on April 21st, a swarm of bees that had swarmed the previous day, viz., April 20th, at Aston Abbots, Bucks, and appear a very strong swarm. They are now working well, and have not had any "feed" of any sort. —J. B., *Aylesbury.*

[1425.] It may interest readers of the *B. J.* to hear of a fine swarm that I had on April 21st. They left the parent hive at three o'clock p.m. I placed them on the stand, and they seem to be going on all right so far. On April 25th, when I went to remove the empty candy boxes, I found two of them nearly filled with new comb and honey. It looks likely for a good harvest of honey this year.—Amos Howell, *Coleford, Glos., April 29th.*

[1426.] I write to inform you that I safely hived a splendid swarm from one of my stocks on the 20th April. I have never before known of a swarm issuing so early in this district.—Thomas Perry, *Brent Bridge House, Hendon, N. W., April 22nd.*

The following further reports have also reached us:—

Mr. H. Head, writing from Wye, Kent, says: "Bees about this part are in first-rate condition. The first swarm came off on Friday, the 21st inst., from a neighbour's straw hive, and yesterday, 23rd, there were two stray swarms, one of which I took myself, that had settled on the top of a fir-tree, twenty feet from the ground. Bees are working well in sections."

Mr. H. Chaworth-Masters reports from Ashbourne, Derbyshire: "I have this day (25th April) had a lovely swarm of bees. My earliest swarm in Derbyshire previous to this one was on May 24th, but I never had one in April before. I have twenty-one colonies."

From Devonshire another report says: "A very early swarm of bees was placed in a hive yesterday (April 25th) by the gardener at Windsworth, near Looe."

WEATHER REPORT.

Westbourne, Sussex.

April, 1893.

Rainfall, ·07 in.	Sunshine, 305·7 hrs.
Heaviest fall, ·04 on 17th.	Brightest day, 26th, 13 hrs.
Rain fell on 2 days.	Sunless days, 0.
Below average, 1·56 in.	Above aver., 117·5 hrs.
Max. temp., 73° on 25th.	Mean max., 61·8°.
	Mean min., 40·5°.
Min. temp., 26° on 15th.	Mean temp., 51·7°.
Min. on grass, 18° on 13th.	Max. barometer, 30·57 on 8th.
Frosty nights, 5.	Min. barometer, 29·97 on 19th.

L. B. Birkett.

Echoes from the Hives.

Bovey Tracey, Devon, April 24th, 1893.—Weather here glorious for bees. They have been having a fine time of it, and no mistake. My hives are located in an open, sunny spot in an apple orchard, surrounded by many other orchards, and the apple-blossom this year is something grand. Bees are as strong in April as they usually are in May. I have supers on several hives, and bees have commenced working in them. In one hive I have six one-pound sections at the back of brood nest full, fit to seal; hope to take them out in a few days, and replace with empty ones. I saw a note in the *Journal* a short time ago, commenting on there not being any Association in Devon. I very much wonder at it myself. Here we are, in one of the grandest counties in England for bees; fruit-trees, both wild and cultivated, in abundance, heather within easy distance, and pasture-land in

plenty, clover everywhere, even by the roadsides, and yet no Association! When I commenced bee-keeping it was with skeps, but I could not tolerate the idea of burning with brimstone the bees I loved so well, and knew nothing of bar-frame hives. A friend of mine went to the Exeter Agricultural Show, and sent me home a bar-frame hive. I showed it to several bee-keepers; none of them could tell me anything about the use of it, so it laid by for a year or two before using. At last I made a start, but you may be sure I had several failures before I succeeded; now I can handle them fairly well. What puzzles any one most in Devon is the number of styles of hives, all different sized frames, and most of them wide-shouldered ones, making them practically fixed; then there is, I believe, what is called the Devon standard frame, about twelve inches, or two inches longer than the British, and about one inch deeper. All these different sizes are very puzzling to a beginner. I hope we may have what promises now, a good honey season.—AMBROSE GODSLAND.

Kingston-on-Thames, April 27th.—Most of the bees in this neighbourhood appear to be in healthy, vigorous condition. Hives are filling up rapidly with brood and honey. Four stocks have been lost during winter, and one lot decamped from a straw hive. One bee-keeper has commenced on the "Wells" system, and hopes to report results later on in the season. In view of the long drought, I am watching with particular interest a fine field of white clover half a mile away from my bees, and wondering if it will yield well this year.—H. CRAWLEY.

The Willows, Landbeach, Cambs., April 29th.—Yesterday I took from my bees two crates, each containing twenty-one sections, well filled with new honey; one crate from a single stock on ten frames, and the other from a colony worked on the "Wells" system. These are all so well filled that out of the forty-two sections, I have only to return three to be finished. I have nineteen hives, and only one of these of the "Wells" type, into which I put two late swarms last season, and they commenced working up in sections earlier than any of my single stocks; so I think of following Mr. Wells a little farther. There were two swarms of bees from skeps in this parish on April 20th, and with a continuance of this glorious weather, we hope to break some more records this season.—CHARLES R. PIGOTT.

Queries and Replies.

[766.] *Adapting Hives to the "Wells" System.*—I have a frame hive holding sixteen standard frames and two dummies, but the frames run parallel with entrance. I should like to work it on the "Wells" system, and so beg to ask:—1. Would it be a suitable hive for that purpose, and is it necessary to have two separate entrances? 2. Would the ordinary queen-excluder dummy do to keep the queens parted; if not, where could I obtain the proper dummy for it? I have a good stock of bees in the hive at present, and I intend to put another strong stock in it at once if you consider it will answer the purpose.—J. S., *Barnstaple.*

REPLY.—1. It can only be adapted for the purpose by making a separate entrance at side or in rear for the second division of the brood chamber. 2. An ordinary queen-excluder is quite useless for the purpose, seeing that worker bees as well as queens are to be kept apart. Any manufacturer could supply the proper dummy, or you can make it yourself by referring to instructions on p. 172 of this issue. We must impress on those making a trial of the double-queen (or "Wells") system the necessity for acquainting themselves with the principles on which it is worked.

[767.] *Carrying Driven Bees on Bicycles.*—Next August I shall probably have an opportunity of driving some condemned bees belonging to a cottager living ten miles from here, and before making preparations I should like to have your advice as to the practicability of the proposed plan of procedure, and your answers to the following questions. I propose one afternoon to ride to the cottage on a bicycle; I should then drive three stocks into three boxes measuring inside $17 \times 6 \times 9$ in., and close them by shutting down the lids, which are fitted with perforated zinc ventilators covered with flannel. I should then ride home again on my bicycle with the three lots of bees strapped on to my back, leave them all night in a warm, dry workshop, and put them next day into bar-framed hives. I should like to know: 1. Can bees be driven from skep hives into boxes measuring $17 \times 6 \times 9$ in.? and if so—2. Can the boxes be closed down as above? 3. Can bees safely endure a journey of ten miles in such boxes on one's back on a bicycle? 4. What would be about the weight of one healthy stock of driven bees from an average skep hive? I ask these questions as my only possible way of getting there is by means of a bicycle, and skeps are very awkward to carry on cycles.—D'ARDS.

REPLY.—1. It would be most difficult to fix such a box in position for driving. Why not borrow an old skep from the cottager to drive the bees into? Then, after fixing up the box on a cloth or newspaper laid on the ground, throw the driven bees out and let them run into it. 2. Yes, very easily. 3. Without having any personal experience of such a journey we should say yes, if nicely packed. 4. The three lots together would probably not weigh more than six to nine pounds. In preparing the boxes a good-sized hole should be cut in bottom of box in addition to one at each end, then a couple of half-inch strips of wood should be

nailed across the bottom of each box to keep them apart. No flannel will be required for covering the zinc. We presuppose that you will take the necessary precautions to avoid an "upset" among the cottager's bees "not for driving," otherwise your experience may be the reverse of a pleasant one.

[768.] *Suspected Comb.*—I send by this post a parcel of comb for your examination. I have twelve hives affected like it. Please notice the sealed cells are sunken and flat, instead of a little round, and also many of them full of very fine holes; and yet, to me, the larvæ and young bees *appear* quite healthy. The unsealed brood in all hives looks beautifully healthy; but several hives have this curious-looking sealed brood, which looks as if it has been nibbled all over. Can you explain it?—M. T.

Reply.—We see no trace of disease in the comb sent. The unsealed brood is perfectly healthy, while many young bees had hatched out during the journey here. The "nibbled" appearance referred to reminds us of a case of *over-dosing* with preventives against foul brood, where the quantity given was enough to cause the death of sealed brood in the cells and the subsequent curious appearance noted. We think that in your case the bees will go on all right, and that no serious mischief will follow.

[769.] *Compulsory Removal of Bees.*—I have kept bees for about two years on a piece of waste garden ground, lent me by a neighbour. I have not paid any rent as he would not make a charge, but have given him some honey in the season. This week he informs me that he wants the bees moved (there are five strong stocks in frame hives). Will you tell me if he can make me move them, and if so, the best way to do it. I shall only be able to shift them about 150 yards.—Wm. Hall, *Flamstead.*

Reply.—If the bees have been allowed to occupy the ground on sufferance only, of course the occupier can compel their removal if he so wishes it. Perhaps he might allow them to remain till a more convenient season if it is explained that loss will occur through moving the bees just now. Refer to reply to 763, p. 168, in last weeks *B. J.* for further particulars.

Bee Shows to Come.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from Colonel Bennett, Alloway Park, Ayr, or John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

BIRCH-TREES AND BEES.

The following newspaper cutting has been forwarded to us for publication by Mr. H. O. Smith, Louth:—

"A Belgian farmer has discovered by accident that birch-trees contain a sap of which bees are very fond, and which has the power of attracting them from considerable distances. A couple of white birch-trees were planted in spring, and afterwards pruned at the time the sap was rising. On the following day from each cut an abundance of liquid flowed, and before long the trees were covered with bees, which consumed with avidity the sweet exudation. The flow of sap continued for several days, and throughout the whole time thousands of bees swarmed round the trees, greedily devouring the liquid as fast as it appeared. This fact is not only interesting to naturalists, but it may prove useful to bee-keepers living in the neighbourhood of birch-trees. Bee-food is not always plentiful in spring, and if it can be obtained simply by tapping birch-trees, many may be disposed to make use of such a source."

[It is quite certain that bees will readily carry off the saccharine matter which flows from the white birch referred to above. We have seen them do it.—Eds. *B. J.*]

REVIEW OF CONTINENTAL BEE JOURNALS.

By J. Dennler.

(*Continued from page* 159.)

Le Rucher, organ of the Northern Bee-keeper's Society, publishes an excellent recipe for a honey cake and fruit preserve as follows:—

Honey Cake.—Four eggs, 5 small cups of flour, 2 of honey, 1 of butter, 1 of milk, 2 coffee-

spoons of cream of tartar, 1 coffee-spoonful of soda, 1 lb. of raisins, 1 lb. of currants, 1 coffee-spoonful of cloves, 1 of cinnamon, and 1 of nutmegs. This cake is as good several months after it is made as at first.

Fruit Preserve.—All fruits preserved in honey are better than those preserved with sugar. The stalks are removed, and the fruit is put into jars, which are afterwards filled with cold honey. The jars are then corked and put in a cool place. After standing a few months the fruit will be found to be delicious.

The experienced cook will not hesitate to use honey, and that with the greatest advantage, wherever cane sugar is employed. Confectioners will not fail to find out that honey mixed with gelatine and also glycerine can be worked up into various attractive forms. Sweets prepared in this way are noted for three qualities: easily digested, considerable nutritive properties, and delicious flavour.

Le Rucher Belge, bulletin of the Meuse Basin Bee-keepers' Society, publishes the following uses of honey as remedies: — An excellent remedy for a cold: Cod-liver oil, two ounces; lemon juice, two ounces; two teaspoonfuls to be taken three times a day. Honey in which ants are boiled is an excellent remedy for ulcers of the eyes. A plaster composed of honey, flour, and onions is good for stye of the eyes. Honey mixed with a solution of wax and oil is a remedy for burns and fistula. Honey dissolved in turpentine and laurel oil is good for chaps. Hydromel, or simple honey and water, is considered a good preventive of infection during epidemics.

Le Bulletin horticole, agricole, et apicole. Editor, Jules Belot, Liège. Here is the way to make sugar cakes: "Boil for a quarter of an hour on a moderate fire, good white sugar to which is added a fifth of its weight of water; or half a litre of water to two anda half kilos of sugar. To ascertain that the sugar will solidify, place a drop on a plate or a slab of marble. If it remains in the shape of a ball it is just right Remove it from the fire and stir into it a handful of flour for every kilo of sugar; it is then poured out into saucers or strong moulds made of paper made in the form of chocolate tablets.',

Les Abeilles, bulletin of the Society of the Hautes Pyrenées.—A bee-keeper signing himself "F. P. G." publishes the way he uses honey. "For some time I make frequent use of honey. I take no breakfast without bread and honey to stimulate the appetite. I have replaced to my satisfaction the sugar by honey in my coffee, and keep to the proper dose. All the household liqueurs, jellies, pastry, and preserves, are all exclusively sweetened with honey. I take no more *sirops* with sugar. Hygiene and economy are both agreed in this. In all respects my health is remarkably good under this treatment. As for hydromel, I have found its use so beneficial that I shall never have too much honey to make it, and my ambition is to be able to make my own eau-de-vie when I am the possessor of a still. The example of certain French priests who make a speciality of this wholesome eau-de-vie is encouraging to their bee-keeping colleagues."

Notices to Correspondents and Inquirers.

WM. MATTSON (Covenham).—*Bee Journals* have been sent regularly every week. We cannot account for non-delivery.

F. JELLICO (Blackrock).—*Old Comb Foundation.*—Bees do not take so readily to stale foundation as to that newly made, but it may be made acceptable to them if softened by passing it through warm water before using. The sample sent is quite good but for its having become brittle through age.

J. P. T. Ashton (Penrhyn).—The fact of the Extractor named having taken many first prizes is a guarantee of its efficiency for the purpose.

F. F. (Clapham Junction).—Lime-trees seldom yield honey before the first week in July. How soon they will bloom in this abnormally early season we cannot say.

J. A. CHAPMAN (Weston-super-Mare).—Insect sent is the Death's Head Moth.

M. D. (Kent).—Comb sent is affected with foul brood.

A. POND (S. Woodford).—We cannot undertake to negociate the purchase or sale of extractors. An efficient article can be had new for 21*s*. For second-hand articles correspondents must please refer to our advertisement columns.

Special Prepaid Advertisements.

SECTIONS, one pound each, wanted, Clover or Heather; crop 1892. Must be good clear Honey, and well filled. Apply or address Mr. LEITCH, 208 St. George's Road, Glasgow. f. n.

STRONG HEALTHY SWARMS for Sale, 10*s*. 6*d*. each. Orders taken in rotation Address E. LONG, Cottenham, Cambs. 5

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BRERETON, Pulborough, Sussex. f. n.

FOR SALE.—Strong healthy Swarms of English Bees, ready in May, 12*s*. 6*d*. each, box included. Address EDWARD GIBBINS, Neath.

ON SALE, a lot of Hives, two Observatory Hives, Extractor, and other Appliances, Cheap. Apply DANIEL, Croft Mill, Chorley, Lancashire. A 15

STOCKS.—Two very Strong Stocks for Sale, in good Regulation Frame Hives. Address WILSON, 15 Wells Road, Sydenham. A 16

GUARANTEED Healthy Natural Swarms of Pure Natives, 3½ to 4 lbs. weight, price 12*s*. 6*d*. Packing-box included. Ready in May if weather continues favourable. Orders in rotation. Address CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. A 17

FOR SALE.—A few Swarms; also Stocks in Second hand Hives. Address, GEO. CHILDE, Semington-Trowbridge. A 21

FOR SALE.—Strong, Healthy Stocks of Bees in Neighbour's Large Skeps, 16*s*.; on Standard Frames, 18*s*. Address, J. S. WEBB, Nymett House, Parkdale Road, Plumstead. A 22

HEALTHY NATURAL SWARMS, 12*s*. 6*d*., on Rail. Swarm-box included. For nearly twenty years I have supplied very many swarms annually. Address, ALSFORD, Expert, Blandford. A 23

BEE SEEDS recommended by Bee-keepers, guaranteed best sorts, 13 large Packets, 1s., post free. Address J. BENNETT, Bee-keeper, Seedsman, and Florist, 178 Spon Street, Coventry. A 24

SITUATION required to Manage Bees. Painting and Glazing. Address, stating Wages, M. A., 5 Cheap Street, Newbury. A 25

WANTED.—Working Housekeeper by a Bee-keeping Colliery Blacksmith (a Widower without Children). A respectable and trustworthy Person, possessing a little knowledge of Bees, may meet with a Comfortable Home as above. Nonconformist preferred. References exchanged. Apply, stating Wages required, to WM. CAMPION, Linton, Burton-on-Trent. A 26

A FEW STOCKS TO SELL, with or without Hives. With Bees and Brood Frames only, 20s., very strong. With Hives and 12 Super Combs, and 2 Cork packed Dummies, £2 10s. Foul brood unknown. Hives, very good, ⅞-in. yellow pine, Cork-packed, half-lapped joints, nailed both ways, canvas roof, perfectly tight. Will hold 24 Frames. Address H. C., Polapit Tamar, Launceston, Cornwall. A 27

MARGUERITE CARNATIONS, 12, 2s. Japanese Anemones, Pink Beauty (new Oriental Poppy), Perennial Phlox, Single Dahlias, 12, 1s. 6d. Nicotiana Affinis (sweet-scented Tobacco), Roemir's Superb Mimulus, Petunias, Tomatoes (Open air and Mammoth), 12, 1s.; 24, 1s. 6d. Ten-week Stocks, Dianthus Heddewigi, German Scabious, Sweet Sultans, Iceland Poppies, 24, 1s. 3d. Eckford's Sweet Peas, 30, 1s. 3d. 20 Packets of Flower Seeds, including 6 Fashionable Poppies, 1s. 6d. Address VICAR, Egginton, Leighton Buzzard. A 28

STRONG May Swarms, guaranteed healthy, 10s. each. Also four strong Stocks of Bees. Cash offers? Address MEDICUS, Covenham, Louth, Lincolnshire. A 29

FOR SALE.—Strong natural Swarm of Bees (Carniolans), Swarmed April 24th, price 40s. Apply to Miss C. J. DEBENHAM, Cheshunt Park, Herts. A 30

WANTED.—4 by 4½ Sections. For Sale.—Swarms of English Bees, 5s. per lb., packing free. After May 16th, 6d. per lb. less, and so on every fortnight. Address A. T. WILMOT. St. Albans. A 31

FOR SALE.—Nine 3-lb. Bottles of Heather Honey, 1892. 24s. the lot. Address HUNKIN, Poole, Dorset. A 32

WEBSTER'S Book of Bee-keeping, post free, 1s.; cloth, 1s. 6d. W. B. WEBSTER, Binfield, Berks.
"One of the best foreign works."—*American Apiculturist.*
"The matter is evidently the result of long personal observation, and is thoroughly reliable."—*Bee-keepers' Record.*
"Have much pleasure in recommending the manual to our readers."—*British Bee Journal.*

SIMMINS' MODERN BEE FARM.

Beautifully printed on Toned paper. Profusely Illustrated. 270 large 8vo. pages. Giving great satisfaction. Only **2/9** Post free.

QUEEN-REARING for Amateurs,

together with Notes on Queen Introduction, Uniting Bees, &c. **6½d.** Post free.

HONEY.—Interesting 8 pp. Pamphlet,

explaining to general Public how Honey is harvested and gathered by the Ton. By distributing it you can sell all your Honey at home at a good figure. Copy gratis and Post free of **S. SIMMINS, Seaford, Sussex.**
(111)

NUCLEI

Sold by us in the past have produced from **40** to **100 lbs.** of Honey, while in some districts during cool, stormy seasons, the Bees obtained from us were the only ones to secure a surplus, while others in the same Apiary would be starving. *Selection in Breeding does it,* as opposed to Queens reared under indiscriminate swarming. Circular free on addressing S. SIMMINS, Seaford, Sussex.
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SWARMS! SWARMS! SWARMS!

12th Season.

3 lb. Swarms, **10/6**; larger at same rate. Boxes 1/6, unless returned.
C. N. WHITE, "Ivo" Apiary, Somersham, Hunts.
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HONEY AND ITS USES. By the Rev. GERARD W. BANCKS, M.A. Can be supplied at the following rates, carriage paid: 3/6 per 100. 8/ per 250, 14/6 per 500. *Specimen copy on application.*
Address Durham House, Green Street Green, Dartford. 5

GENUINE ITALIAN BEES.—Queens, Swarms, Nuclei; or Established on Fixed and Movable Combs, at reasonable rates. Safe arrival guaranteed. Price List post free.
L. R. LAMBERTENGHI & Co., Caravaggio, Italy.

"Ye Olde Englishe Bee."

PURE, Prime SWARMS of my Selected Strain of ENGLISH BEES, all 1892 Queens, Packing-box, and put on Rail free, price **15s.** Address W. WOODLEY, WORLD'S END, NEWBURY.
(Telegrams—'Ilsley, or Hampstead Norris.' Porterage 1/6.)
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STEAM FACTORY for Bee Appliances.

ORDERS addressed J. ROSS, Stranraer, Wigtownshire, N.B., will be attended to.

C. NYE & SONS,

South of England

BEE-KEEPERS' STORES,

WESTERN STREET,
BRIGHTON.

Pure Brood Foundation, 2/- per lb.
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SPECIAL QUOTATIONS FOR A QUANTITY.

Illustrated Catalogue Post Free.

APIFUGE.

The Original and ONLY PERFECT Preventive against **STINGING.**

PRICE AGAIN REDUCED. Quality Superior.
In 1s. and 2s. Bottles. Post Free.
Cash must accompany Order.

SPECIAL TERMS TO THE TRADE.

One Correspondent says:—"I have used it on removing a particularly irascible colony into a clean hive, with perfect success."

Another says:—"I have kept bees for thirty years and have lately purchased a bottle of this wonderful stuff, and cannot persuade my bees to sting me do what I will with them."

DARCY GRIMSHAW, Horsforth, Leeds.
Invaluable to Travellers Abroad as an Insectifuge.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 568. Vol. XXI. N.S. 176.] MAY 11, 1893. [*Published Weekly.*

Editorial, Notices, &c

HEREDITY IN BEES.

It may be remembered that in October, 1889, our correspondent, Mr. R. A. H. Grimshaw, read a paper before the B.B.K.A. on the above subject, in which he announced the discovery that (to his mind) the transmission of instincts, and all other mental phenomena, from one generation to another among bees was not in the usual way amongst other animals, *i.e.*, from paternal and maternal parents to their offspring, but from the worker, or imperfect female, to the worker brood by means of the food secreted from its own system and fed to the young larva either in a pure state or mixed with semi-digested pollen or honey, or by both methods.

The contention of Mr. Grimshaw—the backbone of his argument—was, that as the drone and queen do not possess those admirable faculties which have obtained for the honey-bee such a high place for intelligence, &c., in the scale of animated nature as is occupied by it, it is impossible, illogical, and unreasonable to suppose that they can develop, century by century, higher and higher forms of mental characteristics (or, *per contra*, degrade and degenerate them), which they give us not the least evidence of possessing, and hand these on in the usual way to their progeny; in other words, that they cannot transmit what they have not. The other horn of the dilemma is this:—The worker-bee has the well-known wonderful instincts, &c. From whom does it inherit them, seeing that its parents have them not? Again, the worker-bee has them: then to whom and how does it transmit them, being itself incapable of bearing progeny? Mr. Grimshaw's answer to these queries is, "By means of brood food."

We were the first to admit the reasonableness of his deductions, for in the work by Mr. Cowan on *The Honey-bee*, published in 1890, the editor says (p. 148):—"If this applies to workers, why should it not to drones? It would not be at all impossible in such a case that drones could partake of the character of the workers, and although they may be parthenogenetically produced, the food administered through the workers may have influenced their character, and imparted to some of them the outward characteristics of the workers."

This new theory (which, as affects practical bee-keeping, is so wonderful and far more important than the theory of parthenogenesis was so startling that, through the instrumentality of Mr. J. B. Blow, of Welwyn (himself no mean scientist), Mr. Grimshaw was invited to read a paper on the subject before the Linnean Society, when one of his critics said that if the theory were substantially correct, the paper was the most important contribution to the physiology of animal life that had been made in his day.

Nothing more appears to have been done or said on the question from March, 1890, until June, 1892, when an article by M. Bertrand (the editor) appears in *La Revue Internationale*, in which M. Kandratieff, an eminent Russian apiculturist, makes a communication of a supposed discovery by Dr. Metelli and his brothers (well-known Italian scientists), running entirely upon the lines of Mr. Grimshaw's theory. We believe it rests upon ourselves for having on a personal visit drawn M. Bertrand's attention to the priority of our countryman as the discoverer of the new theory, for M. Bertrand, in the article above alluded to, freely gives credit to Mr. Grimshaw, and promises to give a translation of the whole paper read by him before the B. B. K. A. This article appears in the September number, 1892.

However, all was not to go on smoothly and unquestioned, for, in the interests of true science, M. Bertrand publishes another article (*Revue Internationale*, December, 1892), of which we have pleasure in translating extracts. He says:

"Desiring to have the opinion of a man of science on the value of such a theory, we took the liberty of submitting Mr. Grimshaw's article to Mr. Alp. de Candolle" (born at Paris, October 27th, 1806), "and here is the reply he has been pleased to give us:—'Mr. Grimshaw . . . . appears to me to be in a wrong track. He believes that nourishment can give qualities of instinct, but that is a thing of which we have no examples amongst animals. Nourishment modifies height and muscular strength, but probably not the qualities of the nervous system. The author quoted, after Darwin, the fact that a horse trained to trot transmits that disposition, that people create

certain faculties amongst hunting dogs, &c., but it is not by intuition that they obtain these results; it is by quite other means.

"'In order to explain the facts relative to bees it is necessary to have recourse, it seems to me, to *latent* heredity, which is a well-known theory. Amongst our own species the daughter has not certain characteristics of her father, but she keeps them and may transmit them to her son, if she have one. Again, two generations of females may have latent characteristics which may pass to the grandson of a man.

"'A female bee is born. We do not know at the time whether she will become a male, a mother or a worker. In the second case she will preserve in a hidden state the instincts of the race and will transmit them to her daughters. This is a mysterious but certain fact. Darwin's hypothesis of Pangenesis should not be considered as an explanation; that is an hypothesis for grouping facts without giving the cause of them.'"

An interview then follows between M. de Candolle and M. Bertrand, when the former writes:—

"On thinking over our conversation I am perfectly persuaded that a mother-bee possesses in a latent state qualities which permit her to give birth to progeny which will be males, fertile females or sterile ones (workers). Already, in the larvæ, before being male or female, a fecundated bee embryo should have, like every young fœtus, conditions which permit an ulterior development of diverse nature."

The comments of M. Bertrand are as follows:—

"It results, then, from the opinion which our venerated correspondent has kindly expressed, that, in the actual state of science, our hypothesis is not admissible, being contradicted by what has been observed among the other beings of the animal kingdom. We proposed it because it permitted the explanation of a fact which we and others had observed and noted, and of which the cause is still to find; that is, in the persistence of certain habits amongst the workers of a hive, even when the blood of the hive had been completely changed by the suppression of the mother and the introduction of a foreign mother already fecundated. According to our hypothesis, the transmission of habits may be effected by the channel of the nurses present in the hive at the time of the introduction of the new mother.

"Would it not be possible to admit that social insects form a separate category when considering the subject of heredity? Other examples of species give us exceptions to the general laws which exist in the animal kingdom. With regard to reproduction, for example, the phenomenon of parthenogenesis, which exists amongst other kinds of social instincts, and of which the discovery was received at first with so much scorn, is it not derogatory to the law admitted before, in virtue of which the union of the two sexes is necessary for the production of a fertile egg?

"Amongst our bees, the reproducers, males and females alike, exercise no social function at all, unless it be that of reproduction. . . . According to the hypothesis of Mr. Grimshaw, our bee, a solitary species at first, would become by degrees a perfect social species in passing through intermediate stages. . . . Transformation presupposes that amongst a race new aptitudes not possessed by their ancestors would be gradually acquired: but amongst bees these new aptitudes have only been able to be acquired by the workers, which, in the community, fill every function except that of reproduction. How, we ask, are these new aptitudes transmitted from generation to generation?"

When we come to the January number of the *Revue* we find the reply of Mr. Grimshaw to the opinions expressed by M. De Candolle. He states: "I have the greatest respect for the opinion of a man so eminent as is Alp. de Candolle, who has inspired me for many years with a profound sentiment of admiration and veneration. *General* biology is his domain, but many great naturalists, when they come to treat of the bee, are obliged to do so very superficially. They are not *specialists*, and I may be permitted to say that, at the present day, it is necessary to have given the special subject of bees the deepest study before daring, as we have attempted, to propose a new theory. M. De Candolle tells us: 'A female bee is born, and we do not know at once whether she will become a male, a mother, or a worker.' Now we do know that every egg, even while it is actually being laid, is male, and that when it has been fertilised it becomes a female or egg of a mother-bee. We also know that a variation in the quantity and quality of nourishment (accompanied by another condition of minor importance—the size of the cell) results in the most marvellous differentiation of structure. The tongue, the eyes, the organs secreting wax, the useful appliances on the legs, all these result from the variation in the nourishment given to the larva. Very well; if a structural difference is *accompanied by varying instincts* necessary in order that such a structural alteration may be fully utilised (in other words, if a longer tongue is *accompanied by the instinct to use it*, &c.), it is quite just and reasonable to say that brood food which causes the former equally produces the latter, &c. I am, like yourself" (the Editor of the *Revue Internationale*), "of opinion that social instincts form a separate category when we deal with 'Heredity.' . . . . One cannot expect all animated beings to follow the same routine in their development."

Dr. Metelli's observations are then given, and he is of opinion that "our hypothesis" has received a rude blow by the arguments of M. De Candolle, owing as much to the authority of their author as to their intrinsic value. He comes to the conclusion that the ripe egg of the bee, when this egg is still in the ovary of the queen, shuts up within itself, in a latent state, the characters and instincts of the three elements of a hive—male, queen, and worker. Given

suitable conditions, of which one part depends exclusively on the workers, these elements are susceptible of development into the first, second, or third channel. In short, the special treatment, after the fertilisation or non-fertilisation of the egg, brings forward these latent potentialities or leaves them still latent.

We hope M. Bertrand will not charge Mr. Grimshaw with breach of confidence* in giving us the following quotation from a private letter from Dr. Metelli to M. Bertrand:—"You will see that not only do I completely subscribe to Mr. Grimshaw's article, but I even surpass him in some respects. For the rest, as much in this last as in my own work, it is Charles Darwin who reigns as sovereign. Without Darwin it is very difficult to read the interior of a beehive (bien difficile de lire dans une ruche)."

The discovery of Mr. Grimshaw seems to have caused a stir amongst the scientists on the Continent, inasmuch as it is an important question in animal biology apart from bees. The article on "Heredity," as translated by M. Bertrand from our columns, has been again translated from the French into German, and has just appeared in the *Schweizerische Bienenzeitung*.

MIDDLESEX BEE-KEEPERS' ASSOCIATION.

A meeting of the Committee was held at 105 Jermyn Street, on Wednesday, April 19th, 1893. The Hon. and Rev. H. Bligh (in the chair).

The Chairman announced to the meeting that with great regret he was obliged to resign the Hon. Secretaryship in consequence of his leaving the county. He had always taken a great interest in the success of the Association, but he feared that his many pressing duties in connexion with his parish had militated against his doing much that he might have done in the interests of bee-keeping. In resigning he begged to thank all who had so ably helped him in carrying out the duties of his office.

Mr. Cowan said that though not long a member of the M.B.K.A. he had for years worked with Mr. Bligh in connexion with the British Bee-keepers' Association, and thus knew how untiringly he had striven to advance the interests of bee-keeping in Middlesex. He (Mr. Cowan) knew that the regret he felt at Mr. Bligh's resignation was shared not only by the Committee but by every member of the Association, and that one and all wished him every prosperity and happiness in the new sphere of usefulness to which he had been called. He trusted that though Mr. Bligh was to be separated from them he would not sever his connexion with the Association. It was then proposed by Mr. Bligh and seconded by Mr. Cowan, that Major Fair should assume the duties of Hon. Secretary in place of Mr. Bligh, which was carried unanimously.

The holding of the County Honey Show this year in the N.E. province was discussed, and eventually the sum of 10*l.* was granted towards the expenses of the show in July.

Some general conversation followed relative to the spring tour of the expert, whose report had not yet been sent in; but local secretaries had been supplied with a form, which if correctly filled up and at once sent to secretaries of provinces and districts, would show what subscriptions had been collected by the expert.

The general opinion of the members of the Committee present was that an autumn tour should be held this year as usual, and that early in September.

The proceedings closed with the usual vote of thanks to the Chairman for presiding.

IRISH BEE-KEEPERS' ASSOCIATION.

The postponed annual general meeting of the Irish Bee-keepers' Association was held on Tuesday, May 2nd, at 11.30 a.m., in Dr. Traill's Rooms, 35 Trinity College, Dublin,—Mr. T. B. O'Bryen in the chair. The minutes of the last annual general meeting were read and confirmed. The report and balance-sheet for 1892 were received and adopted, with a vote of thanks to the auditors.

The following were elected Officers of the Association. President:—Lord Ardilaun. Vice-Presidents:—The Right Hon. the Earl of Rosse, K.P., Miss Rutherfoord, Rev. Canon Proctor, Hon. Richard Bellew, and W. J. Bramley, Esq. Acting Committee elected for 1893-94:—Mr. H. Chenevix, J.P., Mr. M. H. Read, Dr. Traill, Captain J. K. Millner, Rev. Canon Sadleir, Mr. J. M. Gillies, Rev. R. Seymour, D.D., Mr. T. B. O'Bryen, Rev. P. Kavanagh, Miss F. W. Currey, Mr. E. Drought, Mr. G. Woods Hargraft, Miss Russell, Mr. R. T. Croasdaile, Mr. William A. Clandillon, Mr. W. H. Good. Treasurer:—Mr. John Edmondson, 10 Dame Street, Dublin. Hon. Secretaries:—Mr. H. Chenevix, J.P., 15 Morehampton Road, Dublin, and Mr. M. H. Read, Clonoughlis, Straffan Station, co. Kildare. District Hon. Secretaries:—Mr. Chas. E. Beale, Killcora Lodge, Glounthaun, for co. Cork; Rev. D. E. Dickson, Letter, co. Fermanagh, for co. Fermanagh; Mr. G. Woods Hargraft, Woodbrook, Shinrone, for King's County; Mr. W. Morony, Fortlawn, Ballygdas, for co. Mayo; Miss E. E. Rutherfoord, Ghan House, Carlingford, for co. Louth; and Mr. T. B. O'Bryen, for counties Galway and Clare. Auditors:—Mr. J. M. Gillies and Mr. M. H. Read.

It was resolved that a Correspondence Committee of five members of the Committee be appointed to whom the Hon. Secretary may refer by post any business he may consider urgent. The following gentlemen were appointed:—Mr. M. H. Read, Mr. T. B. O'Bryen, Rev. Canon Sadleir, D.D., Rev. R. Seymour, D.D., and Captain J. K. Millner. The balance-sheet showed a balance of 13*l.* 2*s.* 7½*d.* in favour of the Association.

* R. A. H. G. is writing for permission.

ROYAL DUBLIN SOCIETY SPRING SHOW.

Under the most favourable conditions this important show was held at the Society's premises, Ballsbridge, Dublin, from Tuesday, April 18th to 21st. The weather was everything to be desired, and brought out many visitors. All the classes in the show were well competed for, except honey, which owing to the early date was poorly represented, all the exhibits being last season's produce. In the classes for hives the competition was keen, Mr. J. D. McNally, Laurencetown, co. Down, winning the first prize and silver medal in Section 1 for an excellent hive, the work of an amateur.

Messrs. Edmondson Bros., Dame Street, Dublin, took second in the same section for a Wells hive which was also recommended for an extra prize, as was a "Cottager's Hive" shown by the same firm.

Section 3. Best and cheapest Cottager Hive. Very highly commended, Edmondson Bros.

Section 5. Best Smoker for cottagers' use. Very highly commended, Edmondson Bros.

Class 130. Crate of 21 1-lb. sections.—Commended, J. K. Millner.

Class 133. Twelve 1-lb. jars of extracted honey.—2nd prize, John D. McNally.—*Communicated.*

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of April, 1893, was 3590*l.*—*From a return furnished by the Statistical Office, H. M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1427.] The drought continues; in our district we have not had rain enough to lay the dust since the 1st of March. April has proved a drier month than March—not a single April shower—and now May seems equally dry; we have got into the second week, and no rain, with barometer steady at set fair (30·50); this beats the record of the oldest inhabitant. The Austrian savant, Falb, prophesies a dry May, a drier June, and then July and August wet, with September as a climax, which is to beat the record for dampness—not a pleasing prospect for either farmers or bee-keepers! But time will prove if these conjectures are true, and also if our pessimism will be real or fancied.

The prospects at present are not bright, though we get abundance of sunshine. I have been inclined in the past, when any one has asked me to define the constituents of honey, to say it was bottled-up sunshine; but I have proved now that sunshine alone will not produce honey to bottle, even with plenty of flowers and bees to gather it.

Yesterday I passed a field yellow with trefoil, and could only see two bees in going across a large field of some twenty acres, and the next was a large piece of sainfoin with a good sprinkling of flowers in bloom, and only one humble-bee did I see soaring from flower to flower in quest of what apparently it could not find, or its visits on each blossom would have been delayed long enough to gather the sweets if any had been in the nectaries. The trefoil flowers are very, very small, and so also are the white clover blossoms, which I also found in bloom in another parish. Fancy white clover in bloom on the 7th of May, quite one month before time; then how can we expect these premature blossoms to produce either honey or seed!

Last week the bees seemed very busy, and I was constrained to put on some supers on the strongest stocks, but since then we have had it colder, with easterly and north-easterly winds; the bees have only been able to gather anything during an hour or two in the middle of the day. This long drought is not only inimical to success in bee-keeping this spring, but is likely to curtail our breadth of honey-producing plants another year, as the farmers cannot sow their spring corn owing to the hardness of the ground, and after the barley and oats are sown then the farmer sows his grass seeds for the hay crops and feeding crops the following spring.

I noticed a week or two back some one thought I had made a mistake in the rate of wages I mentioned in a previous note when referring to the price of hives as out of the labourer's reach. What I stated was quite true of the general labourer. The carters and shepherds get one or two shillings per week more, but the ordinary farm labourer only gets 10*s.* per week, except during hay and corn harvest, and this is a purely agricultural district.

I must congratulate our Scotch friends on the get-up of the report of the Scottish Bee-keepers' Association. It simply "takes the cake." It is brimful of instructive matter from cover to cover.

Will some one in authority in the British Bee-keepers' Association kindly say if the three-eighths of an inch edging on the face of sections extends to all section-honey classes in the show at Chester next month, or only to the smaller exhibits of six and twelve sections? A definite

understanding on this point may save trouble and space later on.

I am glad to be able to state that the Berks County Council has increased the grant to the Berks B.K.A. this year to 100*l.*, to enable the Association to purchase a "bee-van." I was unable to attend the B.K.A. Council meeting, so cannot give details.—W. WOODLEY, *World's End, Newbury.*

A METHOD OF QUEEN-RAISING.

[1428.] An idea has occurred to me which, coming as it does at a time when so much is being said about the advisability of working two or more queens in one hive, may possibly prove worth the attention of some bee-keepers.

I do not know if the plan I propose is a new one; it may have been tried before and found to be a failure. I have never tried it myself, and although I hope to test the plan thoroughly this summer, circumstances may very likely prevent me from doing so, and I would therefore invite any of your readers who may care to make the experiment to do so, and report on the success or failure of their attempts.

What I propose to do is to rear several queens —say, four—in the same hive, simply dividing each compartment from the next by means of a dummy of queen-excluding zinc. A flight-hole would be made in each of the four sides of the hive, through which the queens might severally leave to take their marriage flights. In applying this system to the ordinary four-framed nucleus hives, for instance, all that would be required to be done would be to cut a small entrance in the back, front, and both sides of the hive, and divide each frame from its neighbour by means of queen-excluding dummy. Each frame would contain a sealed queen-cell, from which in due time a queen would hatch, take her wedding trip, and, returning to the hive, commence to lay.

It would seem that much trouble would be saved by such a system, and fewer hives required, and also fewer bees to rear each queen.

Of course, more bees would have to be put in a nucleus made up in this way than would be necessary for an ordinary nucleus, because in this case the frames are placed further apart, and consequently much heat is lost. For all this, it may be seen that, even if we use twice as many bees in making up a nucleus which is to rear four queens, it will prove more economical than rearing queens singly in nuclei.

It may be objected that, when the virgin queens hatched, the bees would destroy all but one. This is possible, but from experiments already carried out in this direction, I should be inclined to say it is distinctly improbable.

The great trouble which I anticipate is from the young virgin queens passing through the excluder zinc, which they undoubtedly will do unless it be made of the most accurate gauge; for it must be remembered that virgin queens, especially when they are but newly hatched, are inclined to be appreciably smaller than fertile ones.

The only way in which we can guard against this danger is by taking care that our queen-cells are started under the most favourable conditions, so that both they and their occupants may be large and fully proportioned; for it is quite certain that from an under-sized cell nothing but an under-sized queen will issue, and that such small queens will have no difficulty in passing through the perforations, which are intended to exclude them.

In large queen-raising establishments it is often the practice to hatch the queens by artificial heat after the cells are capped over, and to introduce the virgin queens to the nuclei.

When this plan is adapted, I should very much doubt the possibility of introducing several virgin queens to the same nucleus. I should say, indeed, that it would be certain to result in failure. However, it would be interest- to make experiments in this direction with a view to thoroughly settling the matter.—G. GORDON SAMSON.

[Mr. Doolittle, in his book on queen-rearing, describes and advocates a similar method, with the difference that the queen remains in the hive and is separated from an upper chamber by excluder zinc, the upper chamber being used for rearing queens, the frames of brood being separated by excluder divisions. Holes are bored in the upper chamber corresponding to each division, and the queens are fecundated in the usual way. He says any number of queens may be reared in this way, and they are better than those raised in smaller nuclei.—EDS.]

EARLY SECTIONS.

[1429.] I have to-day (May 2nd) taken twelve well-finished sections of fine honey from a super which I put on a hive on the 17th April. This is five weeks earlier than the first we had last year, which was a good honey season in this neighbourhood.—E. W. NORRIS, *Erith, Kent, May 2nd*, 1893.

EARLY SECTIONS AND "WELLS" HIVE.

[1430.] On April 7th last I put section crates on two of my ordinary hives (one containing twenty-eight and the other twenty-one sections) and a crate on my "Wells" hive, containing forty-five sections. Up to the present I have taken from my ordinary hive thirty-four sections, weighing thirty-five pounds seven ounces, and from my "Wells" hive two sections weighing two pounds one ounce, leaving about thirty-six nearly finished. So far there does not appear to me very much difference between the two systems, but I intend to keep notes of

the two stocks I have pitted against my "Wells" hive, and compare the results at the end of the season. The sections were partly drawn out (the ones I extracted from last season), and partly "Howard's Champion" with full sheets of foundation. There are plenty of fruit-trees in the neighbourhood, and I notice that I put section crates on last year on May 17th, and took my first sections off June 3rd.—LOWER EDMONTON.

THE SEASON IN SUSSEX.

[1431.] I am, as yet, only a novice in the craft of bee-keeping, but what would some of those gentlemen who are striving after new systems say if I tell them that I took seventy pounds of beautifully finished honey off an old straw skep last season? It is the only straw skep I have—in fact, the one I purchased my first swarm in three years ago. I have a hole cut in the top, and a board fixed on for supering. My stocks (seven) have wintered well, and five of them are supered. One stock has almost completed a six-frame super, holding about twenty-five pounds. I have never known the season so forward before. Clover is in bloom, and the chestnut-trees are a perfect picture with their grand blossoms. One or two of my friends have lost some of their stocks this past winter, but I believe bees are doing grandly in this neighbourhood generally. I must also take the opportunity of saying that your little paper has been of the greatest assistance to me.—W. H. J. MALTHOUSE, *Arundel, May 5th.*

QUEEN-WASPS.

[1432.] The following may be of some interest to bee-keepers:—Mr. G. S. Constable, a gentleman residing at Warningcamp, near Arundel, has for years past made a practice of paying 1*d.* per head for all queen-wasps brought in up to the end of May. This year there seems to be quite a business done, and every youngster who is the happy possessor of a net spends most of his out-of-school hours on the hunt. The wasps are received at Mr. Constable's brewery office in Arundel, where they are counted up and booked, and finally stuck on cards. The total number brought in from 1st of April up to and including the 1st of May is 3063. Some lads have brought in as many as 100 at a time. Perhaps some statistician will tell us what progeny these 3000 odd queens might have had if they had been allowed to live.—M., *Warningcamp.*

EARLY SWARMS IN SURREY.

[1433.] A fine large swarm is reported here as having issued on April 23rd, at Lower Breach Farm, Ewhurst, near Guildford, besides several others in the neighbourhood about the same date.—C. HAMSHIRE, *Wonersh, May 2nd.*

Queries and Replies.

[770.] *Chilled Brood.*—In opening a hive this evening I found some chilled brood, which had begun to smell, so I took out all the combs and put in fresh frames with sealed honey and sheets of foundation. I have destroyed the old combs. They had in them some dead grubs or brood, which were *white*, not coffee-coloured, as foul brood is described. It is the first time I have had any chilled brood, being most careful about over-spreading, and working very much on the let-alone system; so I thought, before opening the others again, I would have some naphthaline to put on the floor-boards, &c. The bees were very strong indeed, and I put sections on all lots more than a fortnight ago, but have none working in them yet, though there is plenty of apple-bloom all around. Could I do anything better with the hive mentioned, or with any others, should I find mischief in them?—JAMES BREWER, *Horsham.*

REPLY.—We fear the "chilling" has been caused by giving surplus room too early, and not sufficiently guarding against the low temperature at the date referred to. The fact of none of the sections being taken to shows that the bees were hardly ready for them. The naphthaline will act as a preventive of further mischief arising from the chilled brood, and so it is hardly necessary to destroy all combs in which dead brood is found unless in large quantities.

[771.] *Using Unfinished Sections.*—I have about fifty unfinished sections of last year with the honey in them, a number being only half sealed. 1. Can I put them on hives this year to be finished, and if so would I require to uncap them to give them a fresh face when finished? 2. Is Meadows' "New Windsor" a machine well adapted for sections as well as frames, or would you advise me to go the length of the "Guinea Extractor?" 3. How are the "Windsor" and "New Guinea" driven if you do not take the "extras" along with them, viz., deep cover with centre hole?—JOHN SMITH, *Perth.*

REPLY.—1. If the honey is not granulated they may be given to the bees to finish. The capping should, however, be removed and if the cells are cut down to half depth they will look better when refilled. 2. The "New Guinea" is suited for sections as well as frames and will suit you best. 3. Both machines are driven in the same way in either case.

[772.] *Inducing Robbing.*—I should be glad if you could advise me how to treat my bees till the next honey-flow. I stimulated several of my stocks extra early, in the hope of getting some surplus from the apple-bloom. I got them nice and strong, but, owing to the excessively dry season, or from some other cause, the bees have

not worked the apple-trees anything like so much as usual; consequently I have obtained no surplus. There is, however, a good supply in the brood chambers (twenty or twenty-five pounds). The apple-bloom is now gone, and there will be little more income till the charlock or sainfoin blooms. 1. Ought I feed the bees at once, or let them use up their stores? I opened two weak stocks this morning, and inserted a frame of uncapped honey in each, and they have been besieged with robbers nearly all day, leaving two or three hundred dead in front of each hive. 2. Are these robbers as likely to have come from stocks well supplied with stores as from some short of stores, and which would the dead ones consist mostly of, the robbers or the others? Each stock successfully repulsed the invaders by the middle of the afternoon.—E. C. R. WHITE, *Salisbury, May 1st.*

P.S.—The apple-trees have bloomed about three weeks earlier than usual, and six weeks earlier than they sometimes do.

REPLY.—1. To feed now, with already overstored brood chambers, would be worse than useless, seeing that it will be advantageous for the bees to consume some of the food in order to allow the queen more breeding-space. 2. It is at all times an unwise proceeding to give uncapped honey to weak stocks; it so often induces robbing. The odour of the honey attracts prowling bees from other stocks, and, if only a feeble resistance is at first offered to these prowlers or robbers, they bring reinforcements to carry off the spoils before the assailed bees are thoroughly roused to defend themselves.

[773.] *A Miniature Swarm.*—On yesterday evening, the 5th inst., a small swarm of bees was found in this village. They numbered about 100 bees—two drones and a queen. 1. Such being an unusual event in beedom, I shall feel extremely obliged if you will enlighten me as to the cause of such an occurrence. 2. Will they be of any material advantage as honey-producers?—DAVID JOHN, *Llansamlet, near Swansea, May 6th.*

REPLY.—1. It is quite beyond us to explain the smallness of the swarm. 2. Excepting the queen, which might be utilised, the swarm (?) is of no value whatever, and could do no possible good "as honey-producers."

[774.] *A Bundle of Queries.*—1. What is necessary to qualify for an "expert?" 2. In connexion with prevention of robbing, I see success ascribed to the use of "Langstroth blocks." What do these mean, and where obtainable? 3. I lifted into a super two combs of brood, and filled up to ten with comb foundation; on examination I found, a few days afterwards, the bees had drawn some of the cells in one frame of brood, and fastened them to cells in the next. I have noticed a similar plan in the hives. What does this signify? The frames are the usual distances, and there is plenty of room in the super. 4. Would you pull off a rack of sections, or a super without brood in it, should the bees not have taken to either within a week or fortnight, putting them on again after an interval of a week? 5. And what kind of foundation do you use in shallow frames—the foundation generally used in sections, or that for extracted honey? If the former, could it be extracted easily out of combs by ordinary "guinea" extractor?—ENTHUSIAST, *Stonehouse, Gloucester.*

REPLY.—1. Candidates for experts' certificates undergo an examination prescribed by the rules of the B.B.K.A., particulars of which can be had from the Secretary, Mr. Huckle, Kings Langley, Herts. 2. There is no particular advantage in the "Langstroth block" over the ordinary sliding entrance, by means of which entrances may be narrowed to any size. The blocks referred to are not much used in this country, but any dealer will make them to order. 3. We cannot quite follow the meaning of this query, but it is a very unwise thing to move two frames of brood into a cold surplus chamber in April, especially if divided from the brood nest below by excluder zinc. It means tempting "chilled brood" in its fullest sense. 4. No. 5. Thin (or super) foundation should never be used in shallow frames for extracting purposes.

[775.] *Using Foul-broody Combs.*—1. I have just discovered foul brood in two of my hives. Can I again use those frames which have no brood in them after cleansing? I shall destroy all frames in which there is brood; though some contain a nice lot of new honey, some are quite empty. 2. I have also a skep very strong and working well, but from the entrance comes the same offensive odour as there is about the frame hives; what shall I do with this?—A BEE-KEEPER.

REPLY.—1. The *safest* way of dealing with the diseased stocks at this season will be to move the bees from their combs and put them on full sheets of foundation. By this course of treatment the bees are compelled to take medicated syrup, which they would otherwise probably refuse to touch while honey can be had in the fields. If the bees are confined indoors in some temporary receptacle while the hive is being thoroughly disinfected, they may be returned to it; but we do not advise giving them either the combs or the honey referred to. The latter may, however, be used for household purposes, as it is none the worse for such. 2. We think you are needlessly alarming yourself about the skep. If "very strong and working well" it is doubtless all right.

[776.] *Age and Distance at which Queens Mate.*—1. Would a young queen be fertilised by drones from hives about eighth of mile distant? My hives are some distance away, but I wish to raise a queen in my attic, so desire to know if it is necessary to have drones in the same hive? 2. If a queen is not fertilised soon after hatching (five days or so), will she never become so? If

not, what is the reason? 3. Often when examining my hive in summer, there is a "gurgling" noise made by the bees. What does that mean? 4. I only saw a swarm of bees for the first time June, 1891. I consider last year my first true bee-year. From one hive I obtained 103 sections. Should I do better by "Wells" system, or any other system?—G.

REPLY.—1. Yes. Young queens seldom mate with drones from their own hive if others are within reach. 2. Queens are sometimes fertilised three weeks after hatching, but the usual time is from three to six days. 3. Nothing more than the "hum" caused by disturbance. 4. 103 sections in one year from a single hive is so good a result that we will not venture to suggest any system which will lead you to expect an advance on it.

[777.] *Packing Swarms for Travelling by Rail.*—Will you kindly give me a little instruction as to packing swarms of bees for sending by rail? If the swarm was put into an empty cheese-box, what would be best and cheapest to cover the said box to keep the bees safe prisoners? Any information will be thankfully received by —LINCOLNSHIRE BILL.

REPLY.—To turn an empty cheese-box into a safe travelling receptacle for swarms, it would require (1) a couple of slips of wood nailed across the bottom to raise it from the ground; (2) a hole about five inches square cut in bottom, and covered with perforated zinc nailed on the inside; (3) a piece of coarse, open canvas or cheese-cloth, large enough to cover the whole top and tie down at the sides. When the swarm is safely settled in box, lift it on to the canvas cover and tie the latter very securely, and let the box travel canvas uppermost, with a strong cord for carrying by. If the hoop or rim of the cheese-box lid is slipped over the canvas, it will prevent the escape of bees and keep it securely down. But square or oblong boxes of suitable size may be bought from grocers for a few coppers, and these, with good-sized holes cut in top and sides covered with perforated zinc, make far better travelling boxes for swarms than the round cheese-boxes referred to above. The point is to give swarms plenty of ventilation and to secure the bees from escaping.

[778.] *Transferring.*—On p. 110 of *B. J.* you recommend a plan for transferring bees from skep to frame hive. 1. Is the old entrance to skep to be plugged, and the bees compelled to go in and out through the frame hive below? 2. If so, would it not be well to have a larger hole than four inches?—T. WHITE, *Hambledon.*

REPLY.—1. Yes; the only entrance should be through the frame hive. 2. The object of a four-inch hole in the adapter or board on which the skep stands is to prevent "chilling" the skep and its contents by exposing the whole of its under-surface to the cold space in frame hive while the latter is untenanted.

[779.] *Smokers and Self-hivers.*—1. Will you please tell me which you consider the best for all purposes, the "smoker" or the "fumigator?" I have had two smokers, and neither have given me satisfaction. From a description of the fumigator, I thought it was like suiting me, but should like advice first. 2. Is there a good "self-hiver" out that will *do its work* and *fit any hive?* I have seen several advertised, but they are complicated affairs, and will only fit hives made by maker of self-hiver. I should consider it almost a godsend to get hold of a perfect self-hiver, as I have lost a great many swarms.—YORKSHIRE PARSON.

REPLY.—1. Personally, we prefer the smoker. Why it is not satisfactory in your hands you do not say, else we might advise further. 2. None that we have yet heard of. In fact, to devise a self-hiver that will "fit any hive" would seem to us impossible.

[780.] *Giving Surplus Room.*—Shall I be doing harm by giving super room though honey is not coming in? My hives are full of bees and want room.—J. T.

REPLY.—No harm can follow giving room at this season so long as there are plenty of bees.

Bee Shows to Come.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 19th to 21st.—Lincolnshire Agriculture Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from Colonel Bennett, Alloway Park, Ayr, or John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

GEO. S. RAKE.—*Honey-comb Designs.*—Write to Mr. Chas. Cox, Brampton, Northants, who prepares supers for working these. Instructions are also given in *Record* for April, 1890, post free 2½*d.* in stamps.

H. E. S. (Hereford).—*Bees Deserting their Hives.*—Moving bees in March would of itself certainly not cause them to desert the hive. The details given are too vague for us to say why they left. You don't say if either food or brood was left in the hive. Then, if the seller now declares that "there is something the matter with the combs, and advises their destruction," the inference is that they are diseased, but we can form no opinion from the bit of dry drone comb sent. The friend who understands bees ought to either advise you himself or help you to get our advice after inspecting the combs.

DALE.—Bee sent is a young queen.

E. C. R. WHITE.—The statement in cutting sent has been dealt with in our columns years ago.

A. POND, A. T. WILMOT, R. V. E., WIRER, and others.—1. *Wiring Frames.*—We have received several devices for "wiring," all more or less useful; but we cannot incur the cost of preparing blocks to show the advantages of each, seeing that there is so little to choose between the various methods shown. Most of them are only adapted for the now seldom used solid top-bar. 2. Naphthaline, as sent from this office, is non-poisonous to bees in its solid form. 3. Nearly all the "Guinea" extractors are of the same make, so the nearest dealer would be the best to purchase from.

CLEVELAND.—The dealer referred to must be still in business, or he would not continue advertising.

C. MARKS (Kingsbridge).—Insect sent is neither a bee nor a moth. It belongs to the order *Hymenoptera*, or fly.

W. PETERS.—*Early Blooming of Honey Plants.*—It is quite impossible for us to say how much earlier than usual the ordinary honey harvest will begin this year, so much will depend on the weather of this month.

A BEGINNER (Westmoreland).—*Wells Hive.*—We trust you will read carefully what has appeared on the subject, and shape your course accordingly.

AMATEUR (Okehampton).—*Adding Frames of Foundation in Spreading Brood.*—1. All healthy brood, before being sealed over, presents the appearance noted. 2. If the bees now completely cover the seven frames, two sheets of foundation may be given, one outside each of the two centre frames of brood nest. 3. If the bees can be crowded on to, say, six or seven frames in autumn, the remainder may, with advantage, be given to a lot of driven bees. Five ready-built combs should, if possible, be given to the latter, as it is very difficult to get combs built nicely from foundation placed between finished combs in autumn, the tendency of the bees being to lengthen out the cells of the latter when storing instead of drawing out the foundation properly.

R. HAMLYN-HARRIS (Lincs.).—*Preventing Swarming.*—There is no certain method of prevention. Giving timely room, shade, and ventilation in hot weather tend to lessen the the chances of swarming, and that is all that can be said of the methods. Dandelion yields a little honey, but it is chiefly a pollen plant. Blackthorn is not an important plant for either honey or pollen.

F. JELLICO (co. Cork).—Comb sent is wholesome, and quite fit for using again.

R. W. LLOYD (Chippenham).—*Bees Casting out Drones.*—The usual cause for this is a sudden cessation of income, and consequent abandonment of any proclivity for swarming which may have been formed by the bees earlier on. This season, however, the weather has been so abnormal that many things are unaccountable in bee-matters.

*** Correspondents will please note that in consequence of the rapid and continued rise in the sugar market, the price of all sugar ordered through this office will be increased 2*s.* per cwt. from May 1st.

Special Prepaid Advertisements.

SECTIONS, one pound each, wanted, Clover or Heather; crop 1892. Must be good clear Honey, and well filled. Apply or address Mr. LEITCH, 208 St. George's Road, Glasgow. f. n.

STRONG HEALTHY SWARMS for Sale, 10s. 6d. each. Orders taken in rotation Address E. LONG, Cottenham, Cambs. 4

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BRERETON, Pulborough, Sussex. f. n.

GUARANTEED Healthy Natural Swarms of Pure Natives, 3½ to 4 lbs. weight, price 12s. 6d. Packing-box included. Ready in May if weather continues favourable. Orders in rotation. Address CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. A 17

FOR SALE.—A few Swarms; also Stocks in Second-hand Hives. Address, GEO. CHILDE, Semington-Trowbridge. A 21

HEALTHY NATURAL SWARMS, 12s. 6d., on Rail, Swarm-box included. For nearly twenty years I have supplied very many swarms annually. Address, ALSFORD, Expert, Blandford. A 23

MARGUERITE CARNATIONS, 12, 2s. Japanese Anemones, Pink Beauty (new Oriental Poppy), Perennial Phlox, Single Dahlias, 12, 1s. 6d. Nicotiana Affinis (sweet-scented Tobacco), Roemir's Superb Mimulns, Petunias, Tomatoes (Open air and Mammoth), 12, 1s.; 24, 1s. 6d. Ten-week Stocks, Dianthus Heddewigi, German Scabious, Sweet Sultans, Iceland Poppies, 24, 1s. 3d. Eckford's Sweet Peas, 30, 1s. 3d. 20 Packets of Flower Seeds, including 6 Fashionable Poppies, 1s. 6d. Address VICAR, Egginton, Leighton Buzzard. A 28

FOR SALE.—Colonial Honey, guaranteed Pure; fair quality; in ½-cwt. Tins at 37s. per cwt. Sample, 2d. Stamps. Address A. W. DEARDEN, 40 Margery Park Road, Forest Gate, E. A 33

FOR SALE.—Carniolans, Italians, English, in Bar-frame Hives. Address T. HILL, Scotlands, Cannock Road. A 34

WANTED.—A Stock of Bees in exchange for Bar-frame Hive and Crate of Sections. Address W. MORSS, Mytton Lodge, Whalley, Lancs. A 35

FOR SALE.—Very Strong Swarms in May, 10s. to 15s., cash. Stocks, 15s to 25s. (in good Hives, 8s. to 15s. extra). Address G. GORDON SAMSON, Oldfield, Bournemouth West. A 36

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung. Robbing, and Bees entering Cones, &c. Leaflet containing instructions accompanies each bottle. Price 1s. per bottle. Post free. Address T. HOLLIDAY, Astbury, Congleton. A 37

BORAGE.—Strong healthy Plants, 1s. 6d. per 100. Address J. HARVEY, Goldthorn Hill, Wolverhampton. A 38

WANTED.—One or two good steady Bee Appliance Makers; those used to Foundation-making and Expert work preferred. Address REDSHAW, South Wigston. A 39

FOR SALE.—5 doz. 16-oz. Screw-capped Bottles of good Granulated Honey, 1892. Cash offers. Address ELLIOT, Rectory, Southwell, Notts. A 40

FOR SALE.—A few Natural Swarms of Bees this month or early in June, 15s. each, packed free. Foul Brood unknown. Address WM. CARTER, Hodge Close, Coniston, R.S.O. A 41

FOR SALE.—1 and 3-lb. Sections: also Abbott's Exhibition Crates, quite new, with Sundries. What offers? Address C. CUST, Dorchester. A 42

WANTED, by Young Man accustomed to Bees, any post in an Apiary. Small remuneration. Addre J. KNOWLES, Anstead Brook House, Haslemere. A 43

BEES.—Wanted, good Swarm immediately in exchange for Cheshire's *Bee-keeping: Scientific and Practical*, 37 Parts (2 Volumes complete, unbound), unsoiled, cost 15s. 9d. Address S., 35 Devonshire Place, Brighton. A 44

WEBSTER'S Book of Bee-keeping, post free, 1s.; cloth, 1s. 6d. W. B WEBSTER, Binfield, Berks.
"One of the best foreign works."—*American Apiculturist.*
"The matter is evidently the result of long personal observation, and is thoroughly reliable."—*Bee-keepers' Record.*
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British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

AN ABNORMAL BEE-SEASON.

Bee-keepers are this year passing through a spring season novel to the oldest of us, and one which must be altogether bewildering to those whose knowledge of bees is limited to a few years' experience. As is natural to a pursuit depending for its success upon the blooming of certain plants at a given time, coupled with accompanying favourable weather conditions, we follow with much the same interest that the farmer does anything which favourably or adversely affects our chance of a crop.

In this connexion we are confronted with a condition of things which, from the bee-keeper's standpoint, is so abnormal in character that no previous personal experience gives us any help in forming an opinion as to what the final result is likely to be. Here we are in mid-May without having reached the end of a period of drought which has—in the south, at least—practically lasted for over ten weeks! The want of rain has, however, brought no lack of warmth or of sunshine; consequently nectar-producing bloom has appeared several weeks before its proper time, and dates fixing the order of honey yields have been completely at fault. Fruit-bloom has, of course, been over for some time; but horse-chestnuts have flowered luxuriantly for ten days past, and will be quite "over" before their ordinary time for blooming arrives. Hawthorn hedges, too, have been white with blossom, but now bear the brown tinge which means decay. Then we have the lime-trees showing flower-buds a long way in advance, so that, instead of yielding honey the first week in July, as they usually do, the bees will probably have done with them before June is half over. Raspberry fields here in Kent are in full bloom now, and a week hence the same may be said of clover and sainfoin. Thus we find every source of supply prematurely forward and ready for bee-work nearly a month in advance of the usual date.

What the outcome of all these abnormal conditions will be, or what their subsequent effect upon the bee-season throughout the kingdom may be, we will not venture to predict. We have but the present condition of affairs in the south to guide us in writing, while our settling down here has been too recent to make our personal opinion even of much local value.

But we are told that it is many years since so much honey was gathered in April as has been secured last month. Any way it was an entirely new experience on our part to be lifting a box of ten shallow frames, fully sealed—leaving a second one well forward—from one of our hives in the first week of May. This sort of operation was usually performed in our former location in West Cheshire about the end of June, or beginning of July.

It is generally regarded as a truism that exceptionally dry seasons yield little honey, and one would think it should apply with special force in such a spring-time as this has been; but the exact opposite has happened, for we have had not a few "takes" of honey reported both "early" and "heavy," to say nothing of the many April swarms. It may be, however, that as usual the exception only proves the rule. After the capital start made in April there came a lull towards the close of the month—caused, no doubt, by cool winds and a lower temperature, lasting for nearly a fortnight, during which time no honey was stored and bees fell off in numbers perceptibly. But since the 12th we have had a return to previous warmth, accompanied by heavy dews at night, and in consequence honey-gather-

ing has been resumed, bees in these parts working well for eight or ten hours each day, spite of the want of rain. Pasturage everywhere around, however, begins to wear a very parched-up and withered look, no growth being visible hereabouts in grass lands, and farmers are anxiously hoping for a speedy change, on account of the fruit "setting" time.

It is gratifying to learn that some welcome rain has fallen in many places in the north of England, as well as in Scotland and Ireland, so that there is reason to hope that the drought is near ended. So far, we have not been favoured with many reports as to the outlook for bee-keeping in the north of England; but if the conditions are in agreement with Scotland, we must conclude that no news means good news, two well-known and reliable correspondents, dating respectively from Wigtownshire and Renfrewshire, having reported very favourably as to Scottish bee-prospects for the coming season. We invite further correspondence on this subject.

Summing up the whole position, it may be said that twenty-four hours' continuous rain, followed by occasional refreshing showers, would be a veritable godsend to the country at large, and to bee-keepers especially, seeing that it would no doubt add hundreds of tons to the honey-yielding resources of the United Kingdom. As to the way in which the long drought may affect the ultimate results north and south, we are very pleased to say the chances are much in favour of the best final returns coming from the north. Southern bee-keepers had decidedly the best of it last year, and should be the first to congratulate their northern friends on having *their* turn this time. We base our opinion that they will fare best on the fact that—saving for the few districts in the south where heather is counted on as a source of supply—the end of the honey season here will not be far off when the middle of June is reached, and from that time forward bees will be living on their stores; whereas in the north, they may continue gathering for two months later on into autumn than the time named, to the manifest advantage of their owners. We are sanguine, however, that the season of 1893, abnormal though it has been, will not have to be set down as other than a satisfactory one for bee-keepers generally, and if the results for April are to be taken as an augury it is a very promising one.

COMING BEE AND HONEY SHOWS.

The show season of 1893 having now fairly started we turn with some interest to the announcements of "bee shows to come" recorded in our pages, in order to judge how the season of 1893 will compare with its predecessors in that respect. In point of numbers the list far exceeds any year we remember at this early date, and we are glad to notice that the framers of the prize schedules before us are not binding themselves to stereotyped forms. The executive of two Associations—Essex and Berks—evince a keen appreciation of what is at present interesting bee-keepers in an unusual degree by introducing special classes for "Wells" hives or hives adapted for working on the double-queen system. Several schedules have also classes for a single one-pound section and for a single one-pound jar of extracted honey in which the exhibits in these special classes become the property of the respective Show Committees. This feature is, in some cases, being turned to good account for charitable purposes; and it should tend to increase the number of entries very largely when these facts are known.

In one case (Berks B. K. A. Show at Windsor) the exhibits will be sold for the benefit of H.R.H. Princess Christian's District Nursing Fund—Her Royal Highness being President of the Association; and in another—Northants Show on August 7th and 8th—there is a class open to the United Kingdom, entry free, for single one-pound sections, with five prizes: 20*s.*, 15*s.*, 10*s.*, 5*s.*, and 2*s.* 6*d.* The honey staged in this class will be sold and the proceeds devoted to the benefit of the widow and five children of an esteemed member of the Association lately deceased.

The Hon. Secretary of the N. B. K. A. (Mr. R. Hefford, Broughton, Northants), is making praiseworthy efforts to ensure a good entry for this class, and for the sake of all concerned we heartily wish him success.

For the list of "shows to come" so far as received up to date, and also for details as to particulars and schedules, readers are referred to p. 198 of this issue.

BEE-KEEPERS' ASSOCIATION FOR NORTHUMBERLAND AND DURHAM.

In response to a circular issued by Mr. J. W. Wakinshaw, Hon. Secretary of the Northern Allotment Society, a meeting was held in

Lockhart's Café, St. Nicholas Square, Newcastle, on Wednesday, the 3rd instant, for the consideration of a proposal to form a Bee-keepers' Association. County Councillor T. K. Dodd (Lemington House, Scotswood) presided over a large attendance, including Rev. R. E. Taylor, Cresswell Vicarage; Mr. Wilson Ritson, Washington Hall; Messrs. J. G. and H. P. Angus and T. Gardner, Low Fell; Messrs. S. Bulmer, J. Atkinson, A. Surtees, and J. N. Kidd, Gateshead; Mr. R. J. Hindmarsh, Sheriff Hill; Mr. J. W. Wakinshaw, Kenton; Messrs. J. Darling, Jas. Eckford, and J. McClay, Newcastle; Mr. R. Brooks, South Benwell; Messrs. M. Riddle and C. Dixon, Kibblesworth; Mr. Wm. Richardson, Howden; and Mr. F. Scott, North Shields; while assurances of support were received from Mr. T. E. Schofield, Morpeth; Mr. Ladbrook, East Boldon; Mr. J. Scott, Plawsworth; Mr. J. M. Balmbra, Alnwick; Mr. R. W. Bell, Hexham, &c.

The Chairman opened the proceedings by furnishing full particulars of the Northumberland Bee-keepers' Association, which was formed a few years ago, but had since ceased active operations. He pointed out the advantages to bee-keeping which might be gained through a strong Association, at the same time reminding the meeting of the difficulties of working one successfully in this district.

Mr. J. W. Wakinshaw explained how practical work had been done by other Associations, and said he wished to see a continuation of the work begun by the Northumberland organization; but suggested that, if a new Association was formed, success would be better assured by extending the area so as to include the numerous bee-keepers in the county of Durham.

The Rev. R. E. Taylor, in supporting the proposal, drew attention to the assistance that might be rendered if an expert could be engaged to visit cottagers and others.

Mr. J. G. Angus said that a successful Association would popularise bee-keeping, the extension of which, he remarked, should be advocated on account of the pleasure derived from it, as well as the profit.

On a motion being submitted for the formation of a Northumberland and Durham Bee-keepers' Association, it was cordially received and adopted.

Rules were then drawn up, that relating to subscriptions being fixed at 2*s.* 6*d.* all round.

The following officers were elected for the ensuing year:—Committee: Messrs. J. G. Angus, Low Fell; J. Darling, Newcastle; County Councillor T. R. Dodd, Scotswood; William Richardson, Howden; Wilson Ritson, Washington Hall; T. E. Schofield, Morpeth; and the Rev. R. E. Taylor, Cresswell Vicarage. Hon. Treasurer: Mr. J. W. Wakinshaw, Red Cow Farm, Kenton. Hon. Secretary: Mr. J. N. Kidd, 1 Havelock Terrace, Gateshead.—*Communicated.*

[While wishing success to the new venture, we trust the Association now forming will take measures to put itself in order by becoming affiliated to the B. B. K. A., and thus entitling itself to the medals and other advantages which accrue from affiliation with the central body.—Eds.]

STARTING NUCLEI.

A correspondent asks me to tell in *Gleanings* how I form nuclei, especially (if I understand him correctly) when full colonies are divided up after taking from one apiary to another. The principal difficulty in establishing a nucleus is to get the bees to stay where put. It is a very simple thing to take two or more combs, with adhering bees, and put them into an empty hive; but the difficulty is, to get them to stay there. Except the youngest bees, nearly all are likely, under ordinary circumstances, to conclude that the old home was better, and accordingly to return to it. But, by means of an out-apiary, that difficulty is entirely overcome. Or, two bee-keepers, living two miles or more apart, could exchange colonies, and each take advantage of the moving.

I might answer the question in very few words by saying that a colony can be taken to an out-apiary, and, without any ceremony whatever, the frames of brood can be taken out, each of them put in a separate empty hive, allowing an equal number of bees to each, and there you are. The bees can't desert and go back to their old home, for they can't find it.

But no doubt the question meant to include more particulars, which I gladly give. When practising the plan under consideration, I generally, if not always, raise a queen in each nucleus, and then the nucleus was developed into a full colony. At the time bees began to think about swarming, I selected one or more colonies to be divided, and from the selected colony removed the queen. Possibly I added to it brood from other colonies, exchanging for this brood combs containing no brood. If the removed queen was considered a proper one to breed from, the bees, upon her removal, would proceed to raise queen-cells, or such cells were obtained in some way. A day or two before there was any danger of the cells hatching, the combs were looked over, and the probability was that the cells were not very evenly distributed, some combs having several cells and some having none. Then I evened up matters, and put a cell on each frame of brood which had none. This was done at least twelve hours before the colony was to be removed to the other apiary, so that the bees would have time to do any patching and mending that was needed. The hive was now filled with brood combs, each of which contained brood and a queen-cell.

But this would allow only one comb of brood, with its adhering bees, for a nucleus, and such a nucleus would be too weak for the best work.

So, about two days before the time of removal another colony was made queenless, to be taken along to the out-apiary. Arrived at the out-apiary, eight hives were placed in proper places to receive the nuclei. In each of the hives a frame, with adhering bees, was put from the hive containing the queen-cells, and also from the other hive a frame with adhering bees. If I had them to spare, a frame or two of honey was given to each of the nuclei; but they would get along without this, for the honey harvest was now on, and in each nucleus there was a fair proportion of field-bees. Indeed, I don't know any other way in which you can be so sure of having in each nucleus a full assortment of bees of all ages.

The nuclei were now formed, and, in the majority of cases, I could count on finding the young queen laying two weeks later. Of course, as in all cases, some of the queens would fail to materialise, but the proportion was no greater, if as great, as by other methods. Some years ago, by following the plan outlined, I increased twelve colonies to eighty-one, and took from them 1200 pounds of honey. But it was an exceptionally good year—a buckwheat year at that—and the honey was nearly all buckwheat extracted. But the eighty-one colonies were all strong and in good condition. They were in ten-frame hives, and only one, two, or three frames were taken from a hive to be extracted at a time, always leaving each hive well stocked for winter should the harvest close at any time.

I would lay stress on the importance of not making nuclei too weak. I don't believe there is any economy in weak nuclei. I don't think they raise so good queens. Besides, they are so slow building up that, although you may at the start make a greater number of nuclei from a given number of colonies, you will gain by having a smaller number at the start, and then make new ones later in the season from those formed earlier. Another reason for this is that, if you start by making your nuclei too weak, the season may close unexpectedly early, and all will be left in bad shape for winter; but, f you have a smaller number, and all strong, then the danger is less, especially if you follow the wise rule of determining that, the later in the season you start a nucleus, the stronger it must be.

I think it is a fact, although I am not sure that it is generally known, that queenless bees, perhaps more particularly those that are engaged in rearing queen-cells, are much more inclined to stay wherever they are put than bees taken from a colony having a laying queen.

Another fact that I think is not generally known is that, when part of the bees of a colony become sufficiently detached from the main body, and yet have free communication with it, such bees, in the busy season, are very likely to raise a young queen, independently of any thought of swarming. It doesn't seem to matter much how the separation be made, whether by having one or two brood combs above, below, or to one side of the regular brood nest, separated by a queen-excluder from it, or, in some cases, separated merely by sufficient distance. The bees seem to feel themselves practically queenless, in spite of the fact that they can easily go where they can find the old queen. Now, in such cases, I have taken the frame or two of brood, with adhering bees, a day or two before I thought it was time for the young queen to hatch, and have been very successful in getting them to stay wherever put.—Dr. C. C. MILLER, *in "Gleanings."*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES ON BEES AND BEE-KEEPING IN THE TROPICS AND AT THE ANTIPODES.

[1434.] Before leaving England for Penang (Malay Peninsula) in November, 1890, I had had some small experience in the keeping and manipulation of bees. It was with something like a wrench that I left England, for I was under the false impression that bees could not be cultivated in the tropics, and I felt that I should have to forego one of the greatest pleasures in life, which I believe intelligent and loving bee-keeping is.

My surprise was great when I found that a schoolmaster friend of mine in Penang kept a hive of native bees, which had been given to him by a professor in the Penang Roman Catholic Seminary. They were small bees, marked like our English bee, but lighter in colour, exceedingly fiery, given to swarming, but failing in the great thing needful, viz., honey-making. Of course they collected honey, but seemingly only in sufficient quantities to supply their own immediate necessities. My friend, the schoolmaster, took me to the Seminary, where the students kept from about fifty to 100 hives of these tiny honey-bees. I should say that keeping such bees (except for pleasure) was very unprofitable. I also discovered that another bee lived in the neighbourhood—a little black fellow. I had a creeper

growing in the verandah of my house (the Honolulu creeper, I believe it was called) which attracted these little workers in thousands. I found two nests of them in the woods. One I took, but the honey was frightfully strong, and though very sweet, decidedly unpleasant.

During all the time I was in the Straits I never once saw the famous *Apis dorsata*. I rambled about the jungles noticing everything, but I never came across this noted race of bees. I often wondered, while living in the Straits, if bee-keeping on scientific lines could be successfully carried out there. I wrote to Mr. Blow for his advice, who thought that the thing was possible. But, then, how was I to get the right sort of bees? Could I depend on getting bees safely shipped all the way from England? I believe that had I remained in the Straits I should by now have accomplished the introduction of the *Apis Liguria;* but, unfortunately, after residing there for fifteen months, I left the place, and took up my residence in Western Australia—the tropical part of it.

Since leaving Penang I have by inquiry and study become convinced that Penang (and the Malay Peninsula) is a splendid field for the tropical bee-keeper. A temperature never exceeding ninety in the shade, and a large and varied flora, are in favour of bees prospering there if properly managed. The place in Australia, to which I departed from Penang, was within the tropics, the line of latitude (20) being just above it. (*Vide* map.) The name of the township is Roebourne. I found there were no bees here. There were none in the colony further north than Geraldton. I found that this part of Western Australia possessed a dry but frightfully hot climate. For eight months in the year we had simply to live and endure as well as we could. It was no uncommon thing for the thermometer in the shade to range from 120 to 130 degrees. We had to calmly put up with hot scorching winds, sand-storms, and westerly gales. The country around was devoid of beauty—sandy plains and rocky mountains alternating. There was very little vegetation either, and how the sheep lived was a mystery to me. There was a dried-up watercourse near the town, where gum-trees and wattles grew in some profusion. The question which occurred to me was, Could bees thrive in a country like this? I had been here about three months when I was attacked with typhoid fever, and on recovery I went to Perth, the capital, to recruit my strength. I had now made up my mind to return to the Straits as soon as I could conveniently give up my appointment at Roebourne. A line of steamers run between Freemantle (the port of Perth) and Singapore. So I determined to buy a hive of bees, take them with me to Roebourne, and then afterwards go on to Singapore. I secured my bees, a fine stock of hybrids. I was most lucky in getting them safely shipped as far as Roebourne. At various ports of call on the way I would let them out if the day was perfectly calm, and, as the ship always stayed until dusk, I then secured them without loss. The novelty of bees in Roebourne was very strange. The residents said they would never thrive. But didn't they! They gathered quantities of good honey (it was the winter season when I introduced them) from the numerous flowers then in bloom. I sold the honey to the residents for 1*s.* 6*d.* and 2*s.* per section. Good, eh? They also swarmed, but the swarm (as I opine) came out when I was from home, and betook itself to the trees in the watercourse. However, the bees which swarmed are there now, and will, I have no doubt, prosper and increase, to the great advantage of the settlers.

(*To be concluded next week.*)

COMPARING THE DOUBLE AND SINGLE-QUEEN SYSTEMS.

[1435.] I am very pleased to find so many bee-keepers giving the double-queen system a trial, and also glad to note that some are comparing results, viz., one hive with two queens against two hives with but one queen in each; but I hope that all who are testing the double-queen system on these lines will bear in mind that they do not really prove its merits or demerits unless they began their operations when packing up their bees for winter. I lay stress on this point because the winter and early spring months are very important factors in the double-queen plan of working. In fact, it may be said that herein lies the secret of its success.

Most bee-keepers can get single stocks strong enough to gather the main crop of honey in June and July, but not many get them up to full strength in time for the fruit-bloom and other early-flowering plants in April and May; so when any one wishes to make a fair comparison between the two systems of working, they should start, say, about the middle of October in the following way:—Select four single stocks, each with young queens proved to be about equal in laying powers. Let each queen have about the same amount of brood, young bees, and plenty of food, so as to start the winter as nearly as possible on equal terms. Give them all the same amount of attention, keep a debtor's and creditor's account of all their requirements, labour, &c., included. This (or some similar plan) will show the difference between the two systems.

We shall not be safe in deciding unless something of the kind is done, because I claim that less food is consumed in winter, less attention required in spring, that bees are ready to gather honey whenever it is to be had, are quite as easy to manage, not more vicious, and in no way whatever worse to handle, &c., but, in the end, very much more profitable. Perhaps some of your readers would like to know how I am getting on for honey this splendid weather. Well, of course we are in the same position as most folks; not much bloom to be seen, and there appears to be very little honey in the few

flowers which are open. Probably it is for the want of rain; still I have no room to complain, as my bees secured a nice lot of honey in April, and appear to be getting just enough now for present requirements. Surplus chambers are not being filled, nor are their contents diminishing, but we have any amount of bees to gather the honey as soon as rain comes to make it flow. I have not yet removed much honey, as I prefer to leave it on the hives for some time. On the 12th instant, however, I examined one—a hive which contained fourteen standard and fourteen shallow frames for brood nest, and twenty-eight shallow frames, and a crate of twenty-seven one-pound sections—and I found that the twenty-seven sections and the top crate of fourteen shallow frames were completed. So I took them off, and could have had more from other hives if wanted it, but I usually let the bulk of it remain in hives until the end of the season, just removing as much as is wanted for present needs.

Now, Messrs. Editors, I think you could assist me a great deal if you will kindly undertake to answer inquiries which readers who are interested in what they call the "Wells" system may be about to put to me. I am very busy in my business, and really cannot spare much time in the evening for writing, and as you have made yourselves pretty well acquainted with the subject, answers may be got through your valuable *Journal* quite as well as I could answer them, and your reply would speak to large numbers, whereas mine only speaks to one. Should there be any little detail which wants clearing up, I will do my best to make it plain through your pages.—G. Wells, *Aylesford, Kent, May 15th.*

[We shall be glad to do anything in our power to relieve Mr. Wells of labour which, it will be admitted, must be not a little onerous and exacting when, as he told us, as many as ninety letters were sent to him in one day last year.—Eds.]

HIVES FOR "WELLS" SYSTEM.

By a Beginner.

[1436.] Before the illustrations of "Wells" hives came out in *B. J.* and *Record* I had partly made mine, which I designed to suit the system so far as I then understood its principles. As it differs from any I have seen described, and in one or two points the difference seems to me advantageous, I send you a few particulars. The hive being four feet long, I made the roof in three sections. The centre one holds the end ones tight, and all being small are easily moved without jarring the hive. For supering it I shall take off the centre part of roof and put excluder zinc over only those portions of brood nests which come immediately underneath that part; then, put on an outer casing, with body-boxes inside as required, and the middle section of roof over them. The bees in super will be concentrated to a width of some nine or ten frames.

I shall be able to get at the outside half of each brood nest without moving the super. I shall have no long, awkward cases to shift when adding another story, and I shall save wood. If the hive does not answer, I can use the supering parts as an ordinary hive. For my dummy I used one-eighth-of-an-inch pine, which I first fixed firmly on a flat surface, and then with an eighth-of-an-inch bit I drilled some 300 holes. Then I framed it in strips off the grooved side of matchboarding. I had to fix the portion of floor under dummy, as the floor-boards had warped and shrunk. I can give three-eighths of an inch entrance all round (ten feet). I had thought of allowing the bees to enter and depart from the super by way of a wide passage up between the outer case and body-box, because I had been told bees do not like excluder, and I thought, with only about sixteen inches of it, they would not be able to pass up and down fast enough, but recently you told a correspondent that extra entrance for super had been found not to answer, so I do not like to attempt it. However, if you think no serious mishap would occur, I may try it.

The "East-enders" in my "Wells" entered at the end at first (their entrance is gradually becoming nearer the middle of the front), and I had ample proof that, as you have said, end entrance was not desirable. I could not touch the brood nest without disturbing entrance. Could not a few frames of brood and young bees be separated by perforated division-boards at each end of hive, and then be supplied with queen-cells to raise new queens to supersede the old ones?—F. F. (*nine months a Bee-keeper*).

[Our correspondent had better not try queen-raising on the plan he suggests. For the rest, we shall be glad to have a report on the hive referred to after a season's trial.—Eds.]

A REQUEST.

[1437.] Will some reader kindly tell me how to convert a bellows smoker into a powder distributor for greenhouse work, similar to the Malbec bellows—so-called—sold by horticultural dealers?—C. N. P., *Wolverhampton, May 12th.*

THE OAK AND THE ASH.

[1438.] The oak is this year in leaf before the ash, which, according to the country saying, means a "summer of wet and splash."

> "If the oak before the ash,
> 'Twill be a summer of wet and splash;
> But if the ash before the oak,
> 'Twill be a summer of fire and smoke."

This is a very reliable "forecast," so, bee-keepers, be ready for a "summer of wet and splash."—C. M. S., *Wolverhampton.*

[The above couplet is of perennial growth, for

it reaches us almost every year in some form or other. Last year only the first two lines were quoted by the correspondent who sent it on, and in a footnote the version which we thought the correct one was given. It reads as follows:—

"If the ash before the oak,
Then we may expect a soak;
If the oak before the ash,
Then 'twill only be a splash."

In our part of Kent, oak and ash this year appear in leaf simultaneously.—EDS.]

LINCOLNSHIRE BEE-KEEPERS' ASSOCIATION.

CAISTOR DISTRICT.

Afternoon and Evening Meeting of Bee-keepers

A very enjoyable meeting of bee-keepers and those interested took place in Caistor on Thursday, May 4th, under the direction of Mr. H. O. Smith, of Louth, the afternoon proceedings taking place in Mr. Percy Taylor's garden (kindly lent for the occasion), when a good muster of members and their friends assembled. The weather being delightful, Mr. Smith opened and examined several of Mr. Taylor's stocks, and found them all in healthy and good condition. The operation greatly pleased the younger members and ladies present, many of them never having seen the internal arrangements of a bar-frame before. "Finding the queen" was both amusing and instructive, it being quite a little competition as to who could first "spot" her majesty. Mr. Smith, in a very lucid manner, explained the working of both skeps and bar-frame hives, driving, &c.

Laid out upon a table on the lawn by the District Hon. Secretary, Mr. Charles Ainger, were frames and sections fitted with foundation, frames showing the methods of wiring, foul-brood remedies, various quilts and wraps, and many other things required by bee-keepers, all of which were examined and discussed; but perhaps the object that excited the greatest interest, especially amongst the more advanced members, was a hive for working the "Wells" system; it was minutely examined, and its merits fully criticised.

In the evening the meeting was held in the Red Lion Hotel Assembly Room, when there was again a very good attendance. F. A. Dorrington, Esq., J.P., one of the vice-presidents of the Association, occupied the chair. Mr. Smith first addressed the meeting, and, for the benefit of those who were unable to be present at the afternoon meeting, again went fully into the working of both skeps and bar-frame hives, explaining, by means of two skeps and irons, how to drive bees. A general discussion then took place upon various methods of working hives and the whole art of bee-keeping. The pleasant and instructive meetings were then brought to a close by votes of thanks being accorded both to the Chairman and Mr. Smith.—*Communicated.*

Echoes from the Hives.

Honey Cott, Weston, Leamington, May 13th.—The drought here still continues, although there has been a break in it. About a fortnight ago we had, on two occasions, a nice drop of rain, but more would have been very acceptable. Where the fields are left for mowing, everything is stunted and dried up. A two-acre plot of permanent grass, adjoining my apiary, has in it lots of trefoil that is so small that one can hardly see it. I have never seen the bees on it this season, although I have looked many times. There is also a lot of red clover in full bloom amongst it, and I saw honey-bees working on it to-day and yesterday, at the least ten. We have miles of whitethorn hedges, that have been a picture to look at. The bees have worked well on it when they had a chance, but the north-east wind blew so strong for several days I fear many bees were lost. I have been supering several stocks, and putting on boxes of shallow frames for extracting, and have in some cases taken the outside combs of hives full of honey, and then drawn the next combs up to the dummy and inserted a frame of foundation in the middle of the hive. I have done this more than usual, as I find bees have crowded the queen by putting too much honey in the frames round the brood nest. I fear there is no help for some of it, except running some of the frames of comb through the extractor, and relieving them of some of their honey. About a fortnight back some stocks did not make progress as I thought they ought. I expect many of the older bees had become worn out with hard work. I hope to relieve some more combs of their superfluous honey to-night. In some cases, to make stocks extra strong, I have taken combs of brood from some weaker ones and given to others, thus getting them extra strong. By the way, we always reckon blackthorn a splendid honey-yielder in this district when the weather is right, which it was this season. I have seen hundreds of bees on it, and there was lots in our locality.—JOHN WALTON.

Northampton, May 14th.—No rain yet. Bees in full flight from morning to night for nothing or next to it. Stores during the last fortnight have ceased to increase, and a good many bees have fallen victims to the strong "Nor'easters" so long prevalent. The early-swarming boom has died away, and the prospects of a good season for bee-keepers are getting daily more distant. Sycamores and chestnuts are now in full bloom, and the limes are in bud; not a clover "bob" to be seen in the pastures. Let us hope that ivy, a second crop of dandelion, and a late crop of clover will enable us to avoid the necessity of wholesale feeding. Another fortnight of dry weather will put to flight all hopes of surplus for this year.—E. B.

Queries and Replies.

[781.] *Size of Brood Chambers.*—1. In a fourteen-frame hive, how many frames must I put in the brood chamber? 2. Is it advisable to let bees have the run of the whole hive, or should I put a dummy in, and add more frames as required? 3. I am anxious to work supers; can you give me a few hints? 4. What width should the entrance to a hive be? 5. Is it necessary to feed the parent hive after swarming?—CHAS. J. TURNER.

REPLY.—1 and 2. If preparing the hive for a swarm, about seven or eight frames will suffice to start with, but ten or eleven should be the permanent number for a fully stocked hive. 3. The only "hints" we can offer are to keep the supers very warm when put on, and give surplus room only when the bees are strong enough and honey is coming in. 4. The entrance should be capable of expansion to twelve or more inches, and be reducible to bee-passage small enough to admit only a single bee if needed. 5. Sometimes, but not often.

[782.] *Driving Condemned Bees.*—Referring to your reply to Query 767 (p. 177-8), please tell me if the precautions necessary to prevent an "upset" are other than I gather from the *British Bee-keepers' Guide-book?*—F. F., *Clapham Junction.*

REPLY.—The precautions mentioned refer to the care required—when driving condemned bees belonging to cottagers—in order that such stocks as are not to be operated on may be undisturbed while the others are being driven. When urging this care we had in mind a case where an inexperienced bee-keeper engaged in an expedition of this kind, and failed to take any precaution whatever. The result was robbing began, cottagers' bees became furious, and no end of mischief ensued. If each stock before being driven is removed to a quiet spot some distance away, and a decoy skep placed on the old stand to receive the returning bees, as advised in *Guide-book*, all will be likely to go on well.

[783.] On April 25th I had a swarm which I hived all right, and a near neighbour also had one the same day. My neighbour says his bees went and settled under one of my hives, and eventually went into it along with my bees. I cannot think so myself, because my bees seem to work just as usual, and are perfectly quiet, no fighting at all. Would the bees join without fighting? If so, what compensation ought I to give, if any is required?—A BEE-KEEPER.

REPLY.—The question of recompense rests entirely with yourself. If it can be proved that the swarm belonging to your neighbour really joined your stock of bees, it is but fair that something should be paid; but, at the same time, you might tell the owner to come and take his bees away from yours, which obviously he could not do, so it is merely a matter of mutual consideration.

[784.] *Transferring Stocks from Frame Hives.*—Will same system of transferring, mentioned on page 110 of *B. J.* for March 16th, and referred to by T. White (Query 778 in *B.J.* 11th inst.), answer for transferring from frame hives? My reason for wishing to do so is, that present frames are not standard size, and having been in use for several years, have got very confused and mixed up.—C. L. B., *Usk, Mon., May 12th.*

REPLY.—Certainly, but it must not be forgotten to fit the frames of lower hive with *full sheets* of foundation, otherwise a preponderance of drone comb would doubtless be built.

[785.] *Dealing with a Queenless Stock.*—Purchasing a stock of bees last autumn in a bar-frame hive, I found it, on examination in March, queenless. There were, however, a number of drones and drone cells, indicating the presence of a fertile worker. Seeking to put matters right, I obtained a small skep of bees having a queen, and placed the skep in the position occupied by the queenless hive, placing the latter by its side at the distance of about two feet, in the hope that the worker-bees in the queenless hive would enter the skep, and thus unite. But the experiment has not succeeded. Many of the drones, I believe, have joined the skep, but the worker-bees (and there are a large number) still cling to the queenless hive, and cherish the fertile worker. How is the fertile worker to be got rid of, as detection is difficult? In any case, what course would be the most advisable one to pursue in order to establish a queen in the hive, and thus set matters right?—INTERESTED ONE, *Newport Pagnel.*

REPLY.—We should, on some fine day, set the skep in the position now occupied by the frame hive, and remove the latter to a distance of twenty yards or so prior to shaking the bees from the combs into a box, or into the upturned hive roof. Many of the flying bees would, while shaking them from the combs, return to the old stand and enter the skep; the remainder being carried thereto and thrown out in front. After the drone brood has been cut out from the combs of the frame hive, the latter may be replaced on the old stand and have the skep fixed above the frames, as explained in reply to "Transfer" on p. 110 of *B. J.* for March 16th, thus allowing the bees to "set matters right" by transferring themselves when they require room.

Bee Shows to Come.

May 23rd and 24th.—Wilts B. K. A., in connexion with Wilts Agricultural Show, at Hungerford.

June 7th, 8th, 9th, 10th.—Hants and Isle of Wight B. K. A., in connexion with Royal Counties Agricultural Society, at Southampton. For schedules apply to E. H. Bellairs, Wingfield, Christchurch.

June 14th and 15th.—Essex B.K.A. County Show at Romford, in connexion with the Essex Agricultural Society's Show. F. H. Meggy, Hon. Secretary, Chelmsford.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 19th to 21st.—Lincolnshire Agriculture Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

July (date not yet fixed).—Berks B.K.A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

August 7th and 8th.—Northants B.K.A. Annual Show at Delapre Park, Northampton.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from Colonel Bennett, Alloway Park, Ayr, or John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication. All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

M. C. (Drogheda).—*Suspected Foul Brood.*—We must refer our correspondent to the "Special Notice to Readers," on page 131 of *B. J.* for April 6th, and to the fact that, where possible, fresh samples of dead brood should be sent.

M. J. (co. Mayo).—1. We could not possibly describe or explain the usual premonitory signs of swarming "a week beforehand," except by saying that, if the combs were examined, queen-cells would be found on the way. 2. When swarms have issued, and have gone off unseen, the hive-entrance will bear a very deserted appearance compared with its previous busy activity; and if the quilt is raised, the same difference will be noted inside. 3. Sections are put on when hives are full of bees, and honey is coming in. 4. We prefer a veil of fine "Brussels" net to any other.

A. T. Wilmot (St. Albans).—We are sorry to even *seem* to be wanting in courtesy to correspondents, especially when the idea of giving offence is so far from our thoughts as on the occasion referred to. We must, however, explain to those who are good enough to favour us with communications, that the preparation of several engravings to illustrate their views is a serious item of expense, of which they are either unconscious or forgetful. Our correspondent must also excuse us for not adopting the phrase "declined with thanks." We do not like it, have never used it, and don't think we ever shall. Yet we do not lack full and hearty appreciation of the help received from contributors to our pages.

Errata.—*In reply to C. Marks last week, for Hymenoptera read Diptera.*

Special Prepaid Advertisements.

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FOR SALE.—A few Swarms; also Stocks in Second, hand Hives. Address, Geo. Childe, Semington-Trowbridge. A 21

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung. Robbing, and Bees entering Cones, &c. Leaflet containing instructions accompanies each bottle. Price 1s. per bottle. Post free. Address T. Holliday, Astbury, Congleton. A 37

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GUARANTEED Healthy Natural Swarms, Pure Natives, 3½ to 4 lbs. weight, price 12s. 6d. each, packing included. Address Chas. Whiting, Valley Apiary, Hundon, Clare, Suffolk. A 45

STRONG, Healthy Swarms for Sale, price 12s., box included. Post or Telegram address, Holder, Wimborne, Dorset. A 46

FOR SALE.—8 Single-walled Hives, Simmins' Pattern, nearly new, and 6 New Straw Skeps, to be Sold cheap. Price and particulars on application to Edward Lang, 35 Seymour Street, Chorley, Lancashire. A 47

WEBSTER'S Book of Bee-keeping, post free, 1s.; cloth, 1s. 6d. W. B. Webster, Binfield, Berks.
"One of the best foreign works."—*American Apiculturist.*
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"Have much pleasure in recommending the manual to our readers."—*British Bee Journal.*

FOUR Section Supers, suitable for Skeps, roofs included (list, 6s. each), accept 3s. each; 100 2-lb. Sections, 1s. 6d.; 6 Straw Skeps, about good as new, 7d. each; 10s. 6d. Wax Extractor, not been used, 5s. 6d.; Pair Uncapping Knives, 3s. (list, 4s. 6d.); New Veil, 1s. 3d.; 2 5s. Swarm Boxes, suitable for Nucleus Hives, 3s. each; 3 New Bar-frame Hives, hold 12 Standard Frames, 7s. 6d. each; 6 3s. Frame Box Feeders, 9s.; 1 Gross 2-lb. Tie-over Jars, packed in case, 15s. 6d.; 4 Dozen Enamelled Section Cases, 1s. per dozen; Super Foundation, 1s. 9d. Address COOPER, 71 High Street, Burton-on-Trent. A 48

BARGAIN.—Two Hives, containing Frames, &c., complete, 6s. each. Address G. CARELESS, Blackpill, Swansea. A 49

GOOD, Fertile, Healthy Queens, 3s. 6d. each. Address JOHN WALTON, Honey Cott, Weston, Leamington. A 50

FOR SALE.—Strong, Healthy Stocks, Double-walled Hive, 10 Frames, and Quilt, on Rail for 25s. Address LEMIN, 72 Hoe Street, Walthamstow. A 51

TWO Frame Hives with Sections, 6s. 6d. each, 12s. the pair. Address WHITLOCK, West Bromwich. A 52

WANTED.—Trade Lists and offers of Bee Appliances. Address HAMMOND & SON, Arcade, Carlisle. A 53

WANTED.—Light Metal Ends (not Carr's). Sample and price to E. J. SAVAGE, 256A Hotwell Road, Bristol. A 54

TO BEGINNERS.—For Sale.—Five Bar-frame Hives, roomy, two with extra story; one Abbott's Honey Extractor, good as new, Two Guineas, free on Rail, Broadstairs. Address FIELD, Albion House, St. Peter's, Broadstairs. Few Appliances, "Bee Journals," Instruction Books, equally cheap. A 55

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J. TREBBLE,

SAW MILLS,

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N.B.—All Entries for the above are to become the property of the Hon. Secretary, and will be sold for the benefit of the Widow and Five Children of the late Mr. H RINGROSE, of Boughton, one of the first Subscribers to the Association.

For further particulars and Schedules apply to ROBERT HEFFORD, Hon. Sec. Northants B.K.A., Boughton, near Northants. 117

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 570. Vol. XXI. N.S. 178.] MAY 25, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—The long drought has at length come to an end, and the parched ground in all parts been refreshed with welcome showers in sufficient quantity to give that delightful green to vegetation which makes one feel that spring is still with us. After the long spell of high temperature and bright sunshine, with bees filling supers just as they do in June, it is not easy to realise that we are still but on the threshold of summer if dates count for anything. But the warm rain has done for the bee-keeper what we expected it would; to use his homely phrase, "it has brought in the stuff." We wonder in what year has such glorious summer weather prevailed during Eastertide and Whitsuntide as in this year 1893? Certainly not in recent times, and it should make the chronic grumbler against British weather for once in his life admit that even *it* might be worse. For ourselves we are impelled to reflect on the weather here as compared with some "samples" reported from abroad. The drought and heat has certainly brought about some unlooked-for results in this country. As we wrote last week, it has forced everything that grows into a state of abnormal forwardness seldom experienced. Among other indications of this we may mention that to-day (22nd) strawberries are being gathered for market in the open fields of Kent. But while our farmers have nothing more serious to lament over than the prospect of a somewhat diminished hay crop, what has been happening in other countries within the last three months? Cattle dying through the drought to the value of some three million francs in one part; snowstorms causing immense damage to the vineyards in another; plagues of locusts in Algeria eating up the crops for miles in their destroying march; disastrous tornadoes in America destroying not only crops but whole villages. These and various other "weather items" of a like kind make it pretty safe to say that British weather is sometimes held up to undeserved odium, and we certainly have small reason to complain of our share of the year's hardships in this direction so far.

THE SEASON'S PROSPECTS. — Referring again to our observations of last week, and the effect that rain would have on the honey income, it may be said that, wherever there is nectar-producing bloom, honey must now be coming in abundantly. Anyway, it is so in our district, and the quality, too, is very superior; quite different to that gathered last month. Indeed, April honey has, this year, been remarked upon as generally inferior in flavour, aroma, and colour.

For the last few days bees have been working most vigorously, early and late, and those who took the precaution to substitute a frame of foundation—or two where practicable—for an old comb of brood nest when giving supers, will be less likely to be troubled with swarms than if no comb-building allowed in brood chambers. It is also a good plan for renewing combs to weed out one or two old ones each year, and replace them with new in this way.

A few reports have reached us in reference to the prospects of a good season in the north, and they are altogether favourable, a Yorkshire bee-keeper informing us that the clover is looking most promising since the late rains, and that a fine crop is expected from it.

From Scotland we hear that the outlook is excellent, and Mr. J. D. McNally anticipates that in Ireland 1893 will be a "record" season.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee Meeting, held at 105 Jermyn Street, on Wednesday, May 17th. Present: Mr. Lees McClure (in the chair), Rev. G. W. Bancks, Major Fair, Captain Campbell, and Messrs. W. B. Carr, W. O'B. Glennie, J. Garratt, W. H. Harris, J. H. New, W. J. Sheppard, E. D. Till, and J. Huckle (Secretary). The Rev. E. Bartrum, who had previously attended a Sub-Committee meeting, was unable to be present. Mr. H. Jonas also wrote regretting his inability to attend.

The Chairman thanked the Committee for having elected him to the position of Vice-Chairman, and expressed his regret at not being able to attend a previous Committee meeting.

The minutes of the last Committee meeting were read and confirmed.

After some formal business had been disposed of, it was resolved to hold the next monthly meeting of the Committee on June 21st, in the Show Yard at Chester. The Secretary was requested to write to the Royal Agricultural Society, soliciting the favour of the use of their Council tent for the purpose.

A letter prepared by the President for making an appeal on behalf of the Association through the columns of the leading London newspapers was submitted and approved. The Chairman was requested to thank her Ladyship for having prepared the appeal.

At the close of the above business, lectures were delivered by candidates for first-class certificates, after which the meeting adjourned preparatory to the usual quarterly *conversazione*.

Conversazione.

The quarterly *conversazione* was held on Wednesday, the 17th inst., at 6.30 p.m., in the offices of the R.S.P.C.A., 105 Jermyn Street, W. Mr. Jesse Garratt presided, and was supported by the Revs. G. W. Bancks and R. M. Lamb, Major Fair, Captain Campbell, Messrs. Armstrong, Anstey, Brice, Blow, Carr, Cribb, Glennie, Harris, Sheppard, Soar, Till, Welham, and other gentlemen, as well as several ladies.

The Chairman, in opening the proceedings, said there was no formal programme for the evening, but he had no doubt there were gentlemen present who would be glad to make the evening profitable and agreeable by introducing subjects for discussion.

Mr. Harris related a singular bee-story concerning a queen-bee, which, at our request, he has more fully detailed in a letter (1441, p. 206) of this issue, and invited an expression of opinion thereon.

Mr. Anstey said a bee-keeper in his county had told him that a local expert who visited his apiary last autumn reported one of the hives to be queenless, and without brood or eggs; but, upon inspecting the same hive this spring, he (the speaker) had found a queen there, with brood also from one end to the other.

Mr. Harris pointed out that the cases were dissimilar, as the hive to which he referred had been examined minutely and found queenless by an experienced bee-keeper a few days before Mr. Baldwin discovered the queen and eggs there.

The Chairman remarked that on one occasion he examined a hive in company with the owner, and could not discover the queen, upon which he undertook to supply him with a queen. However, after the winter had passed, the hive was found to be all right, and containing every indication of a queen's presence. The fact was that, towards the end of the summer, brood-rearing totally ceased, but could be stimulated by feeding.

Mr. Cribb suggested that possibly the hive in question was exactly similar in outward appearance to the hive which the queen had left. He had known queens fly from a hive, and, after circling about in the air a few times, return thereto.

Mr. Carr thought that, in considering a circumstance of the kind before the meeting, much depended on the experience and accuracy of the bee-keepers connected therewith, as it was so easy to make a mistake. Many instances had come under his notice of supposed queenlessness, and in such cases he always recommended correspondents to wait a long time before arriving at a conclusion on the matter, and to feed with stimulating food, so that if a queen be there her presence will soon be discovered by the existence of eggs. He considered the story, if reliable, was without precedent, though it was just possible that a lost queen might attract, by her odour, bees flying in her neighbourhood. There was also a very slight chance, as hinted by Mr. Cribb, that she mistook the hive where she was found for her original home, but he thought it was very slight indeed.

Mr. Harris did not believe it possible for his friend to be mistaken. During the present extraordinary season egg-laying must have gone on uninterruptedly since the beginning of March, which fact destroyed the inference that the queen had been there all the winter.

Mr. Carr said that most extraordinary accounts had been circulated concerning the re-queening of queenless hives, it having been suggested in one instance that the bees must have stolen an egg from another hive and reared a queen therefrom! (laughter)—there being no other way of accounting—so it was said—for the presence of a queen in a hive which had been queenless for a long time.

The Chairman thought it was quite possible that the queen found the hive out herself, and was received.

Mr. Harris did not think the matter could be explained by the similarity of surroundings. The original home of the queen was in a little garden, not much bigger than the room in which they were assembled at that moment, containing about twenty hives. Her present home was in an open space with only one hive near to it. Mr. Anstey wondered whether the swarm the queen originally came from issued from the hive

to which she went back; to which Mr. Harris replied that that was a possible explanation, though most unlikely.

After a few words from Messrs. Till, Fair, and Cribb, the Chairman said the incident was a most curious one, and afforded material for a considerable amount of thought and observation, and he was sure the members present were much obliged to Mr. Harris for relating the story. He would now ask Mr. Bancks to oblige the meeting with some of his experiences relating to foul brood, which had unfortunately attacked his apiary last summer, and had been, to a large extent, combated successfully by an unusual method of treatment.

The Rev. Mr. Bancks said that, at present, he was not in a position to express a definite opinion on the method he had adopted, but would explain what he had done. Last summer he found several hives badly diseased, and he resolved to try an experiment. Hitherto remedies had been devoted to checking the spread of the disease, and not to actual cure. No attempt had been made to destroy the spores. He therefore decided to try bromine, with the object of destroying them, at the same time endeavouring to avoid injuring brood. He therefore waited till the time of year when there was little or no brood in the hives, and then administered bromine three or four times in the form of vapour, at intervals of ten days. In one or two instances, when he gave the dose, most of the bees came outside, and formed a cluster under the floor-board, and in about twenty minutes they all returned. The result, though not yet conclusive, was beyond his anticipation. In two of the affected hives he could now detect no trace of foul brood, although last autumn they were reeking with it; but with regard to the other diseased hives he could not express so decided an opinion, having detected in some of them three or four affected cells. He believed that the remedy was sufficiently strong to actually destroy the spores, though the difficulty was to use it without injuring the stocks. Bromine was analogous to chlorine, and, next to chlorate of mercury, was the strongest possible remedy so far as he knew.

Major Fair thought it was difficult to measure the exact value of the remedy, seeing that lots of cases were known of foul brood curing itself, or being cured without the application of any specific at all.

Mr. Harris said the remedy used by Mr. Bancks was of the same character as iodine, which had been employed in vapour form to destroy the spores.

Mr. Carr said that numbers of remedies, more or less effective, had been tried. Mr. Sproule, some time ago, advocated formic acid, and was successful in using it, but the substance was so difficult of proper application that the adoption of it could not be recommended indiscriminately. Remedies were good or bad according to whether they were placed in the hands of scientific or non-scientific persons. It was most difficult to destroy the spores by means of any fumes or vapour, no destructive action taking place until the spore germinates. They had the evidence and experiments of Dr. Lortet, who proved that the disease existed in the alimentary canal of the bee, and could be attacked by the use of Naphthol Beta in food if the bees could be induced to take the medicated syrup in sufficient quantities. In this way Naphthol Beta was certainly supposed to be a cure. Naphthaline was only a preventive, as it destroyed the bacilli as fast as they hatched out. Without suggesting for a moment that no remedies should be used at all, it was nevertheless a fact that there were numerous instances on record of badly diseased bees recovering without treatment. With all deference to Mr. Bancks, he thought that gentleman's results, up to the present, were hardly positive. The fumes of salicylic acid were most effective in destroying the germs of foul brood by means of the Hilbert fumigation process, which was considered most valuable on the Continent, but the fumes only cured for a time. So long as there were spores in the hive, the disease was always liable to break out again.

The Rev. Mr. Bancks replied that Koch's experiments showed that two per cent. of either chlorine or bromine would destroy anthrax spores in a few hours.

Mr. Till said that Professor Cheshire had stated that the spores of anthrax would resist boiling water.

(To be concluded next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1439.] At last, after a long interval of eleven weeks, we have had the long-wished-for—nay, prayed-for— rain. The weather took up on Wednesday, March 1st, and we had our first rain on Wednesday, the 17th May, excepting a slight shower once or twice which was not enough to lay the dust; but with the rain we have had a lower temperature, and in hives that a few days

previously showed every sign of sending off early swarms, the bees have managed to find room to stow themselves away inside somehow. The welcome rain has changed the face of nature from the sere and yellow to the vivid green; it has been simply a transformation scene, and it has also infused new life and hope in the farmers, and instead of the long faces of anxious care we get the hearty, cheery greeting as of yore.

I notice that wasps are very numerous in many parts of the kingdom this year, and this district is no exception to the rule. I have killed a great many during the past two months, also others have done the same, yet there seem a good many that have escaped. I have a nest started in the roof of one of my hives; this queen I had not killed at its nest and it has managed to escape all other sources of danger. There was a small swarm of bees in an adjoining village similar to the one mentioned by Mr. John (773), consisting of about a pint of bees. A bee-keeper of the old school tried his hand on hiving them into a grocer's cheese-box, but was unsuccessful. I have not heard since if they are still in the crevice of an old house.

Those bee-keepers who have weak colonies *now*, should bring them together as soon as possible by moving each hive a little every day, and then, when side by side, put them both into one hive with a Wells dummy between the colonies, giving entrances at each end, or at or near the ends on the front side of hive, and in a day or two super them, first laying a piece of excluder zinc on the supering space above the united (though divided) brood nests. This plan will be far better than weakening strong stocks by removing combs of hatching brood to strengthen weak stocks; in fact, I consider it one of the best, if not *the best point*, in the "Wells" system. I know there are those who who would say, "Why do you have any weak stocks?" Well, with the best strain of bees, and selected queens, and the best of hives, there will be a few stocks in any large apiary that are not up to the mark.

A gentleman wrote me last week asking me to give my system of management for comb honey, what size brood nest, &c. To this question I would say that I have for several years past supered on nine to ten frames, standard size—rarely over ten frames, and when putting on supers I have even reduced from ten to nine frames, generally removing the front comb in the hive (my combs are parallel with entrance). If there is a little brood and a lot of honey in the comb, I should bruise the honey capping with a knife and insert it in the centre of brood nest, leaving the ten frames in brood nest, and place on the super of twenty-one sections. This bruised honey must be attended to by the bees first job, they get warmed up by it, and then go up into the super and start comb-building at once, *i.e.*, when the honey-flow is on, just in the nick of time when supering should be done, if fine sections of honey, well filled and sealed to the edges, are desired. It depends a great deal on management.

Another point—have your hives perfectly level, or, at any rate, your crates of sections, and, above all, have English bees for comb honey. The honey will be capped evenly and thickly enough to prevent the honey oozing through the capping and spoiling the sale and appearance a short time after removal from the hives.

The largest comb-honey producers in America prefer and use a brood nest of about 2000 cubic inches; ten-frame English standard hives contain that quantity near enough for all practical purposes, but, of course, if I were working my apiary for extracted honey, I should increase the brood chamber to eleven or twelve frames, and have shallow frames in super boxes to about the same number, or have two shallow boxes, one above the other, then remove first filled, extract, and return same below the nearly full one, always using full sheets of excluder zinc on top of frames to confine queen to brood chamber.

According to the *Annals of Hygiene* (U.S.A.) "Experiments made in the Hygienic Institute in the Berlin University have shown that cholera bacilli die more quickly on dry tobacco than on dry glass plates; that they do not multiply, but quickly die on moist tobacco, and that tobacco smoke quickly kills them." Now, if tobacco smoke kills the cholera bacilli, will it also kill the *Bacilli alvei?* Will our esteemed editor, Mr. Cowan, when at leisure, experiment on these lines, for the benefit of bee-keepers, as hives that have contained foul-brood germs, after fumigation with tobacco smoke, could be cleansed with washing and fresh air, and thus become useful again instead of being consigned to the fire.

It is satisfactory to our Berks Association that the County Council have paid over the 100*l.* grant to the Berkshire Bee-keepers' Association, so that we have been enabled to order the "Bee Van," and hope shortly to start a propaganda of bee-keeping by the aid of the van in the most inaccessible parts of the county, that have hitherto been beyond the reach of shows, bee-tents, and such-like centralised methods of teaching the craft.—W. Woodley, *World's End, Newbury.*

NOTES ON BEES AND BEE-KEEPING IN THE TROPICS AND AT THE ANTIPODES.

(*Concluded from page* 195.)

[1440.] It was during September that I brought the bees to Roebourne. About Christmas-time I was to leave once more for Singapore. The season then was frightfully hot. One fearful scorching day the bees came out in thousands, and lay as if dead or frozen. They, however, recovered. I also gave them more ventilation, but not once did the combs give way. I think that bees know how to adapt their comb to the climate in which they live.

And now I come to a sad history which I would fain not reveal. I packed my bees for

transit to Singapore, but after a week on board the steamer they died. The reasons: Too crowded—*ergo*, insufficient ventilation; improper packing, for want of better knowledge; the heat of the atmosphere, &c. I make this miserable confession very reluctantly, but I lost my bees. Alas! alas!

I take the blame to myself. I nailed over the entrance a piece of perforated zinc, and also I nailed a sheet of zinc over the frames. It had occurred to me to pack half of the frames in a separate box, thus giving each lot of frames more ventilation. But I could not manage this very well, owing to my hurried departure.

The captain of the steamer was very inconsiderate. He would on no account allow me to have the bees in the aft part of the vessel where there was plenty of shade, but insisted on them being in a place where they were always liable to have the sun shining on them, owing to the awning being taken down from time to time on account of the wind. The hold was too close and impure for the bees to stand it, so I was a little helpless. The captain very rudely declared that overboard they should go if only one person was stung. Of course, there was no danger of this, as the bees were too securely packed.

My object had been to take bees to the Straits as an experiment, see how they worked, if likely to be successful, and so on. Everything likely to prove favourable, I intended to import colonies from Italy and England, and set up a tropical apiary and make bees the business of my life.

I failed in my attempt ignominiously, and then gave up any more thought of it. I left Singapore for Java and Queensland, *en route* for New Zealand. In Java I found a brown bee, slightly larger than the small brown bee kept in hives in Penang. In Queensland I found that bees had been introduced into New Guinea, Normanton, Port Darwin, Thursday Island, and into some of the Pacific Islands. Queensland is the ideal county for bees. A second attempt to introduce bees into the Straits might be successful, but I have not the means to do it now, so I must content myself by going to New Zealand, where I could get employment in my own profession, and then, after a sojourn there, make one more attempt to carry out my scheme. So at present it is in abeyance. While in New Zealand I shall make progress in apiculture, and learn all I can in order to be better able to carry out my plans. All bee-keepers are learners, or if not, then they are unsuccessful and glaring failures.

In New Zealand (North island) Italian bees are cultivated, but in the South island, Carniolans. Mr. Brickell, of Dunedin, is a great importer of Carniolan queens. In Auckland, Mr. I. Hopkins, an authority on apiculture, manufactures hives and implements, but he has for some time discontinued keeping bees. In Queensland, Mr. Cribb of Brisbane is the leading apiarist. Mr. Jones of Goodna competes with him. I find wherever I go in these colonies (Queensland, West Australia, New South Wales, and New Zealand) that bee-keeping is done in a slip-shod manner, and the bee-keepers almost to a man are opposed to the more cleanly and neat style of the English apiarist. Some things which the English bee-keepers think necessary are here entirely ignored. In these colonies bee-keeping is cultivated entirely for profit, and there is a great want of tidiness and style about the getting up of honey for sale and so on. Honey again is far too cheap: twopence and threepence, rarely above sixpence a pound, and yet it pays in these colonies.

The American hives are used here, and the Langstroth frame. Metal ends are discarded, and all the hives seem to me awkward and badly finished, after the well-manufactured ones in the old country.

Bees increase at a tremendous rate in these favourable climes. The bush swarms with bees "gone wild." The old style is still adhered to by some antiquated specimens of humanity, believers in sulphur. It dies a hard death even in Australia and New Zealand.

And now, dear sirs, my notes are finished. They may be interesting or not; you are welcome to use them.—W. H., *Auckland, New Zealand, March 30th.*

IN THE HUT.

"Care to our coffin adds a nail, no doubt,
And every grin so merry draws one out."
WOLCOTT.

[1441.] Care it has been which has kept closed the door of the Hut for so long a time, but as even this inevitable load becomes easier to bear by reason of use, even if we cannot cast it to the winds, it is surely time I inflicted upon your readers another of those contributions which some of them probably thought they had got rid of for good. Let us

"Hang sorrow! care will kill a cat,
And therefore let's me be merry."

Quotations quite suitable crowd in:—"I make haste to laugh lest I may be compelled to weep." I look into the Hut and it smells of bees; all the old feeling of pleasure is brought back again by the aroma of propolis, and the general *Je ne sais quoi* of bee-tackle. Even the twang given off by a carbolic cloth is sweet perfume. I go to my hives, and my bees seem positively to have thriven magnificently through being *let alone*. Note this, O novice! When I open a hive, up comes that welcome indescribable scent so characteristic of a colony that that is doing well; and there are the drops of condensed moisture on the underside of the American cloth quilt, indicative of prosperity; yes, and I am only just nicely in time for clapping on shallow-frame supers, for there are the sure signs of this necessity in the white drawing out and sealing of the upper cells of brood combs. This duty performed, and I come into my home a happier and wiser man; happier that I have linked together the chains that

bound me to my hobby; wiser in that I have philosophised to this extent:—It is bad business, even in stormy times, to slip the cables that anchor us to harmless recreation.

But what am I doing? Where are the grins and merriment I promised myself when I took up my pen? We must do without them, they would be counterfeit presentments. All I can say about bees is now stale, flat, and unprofitable, for it has been well said already how the record year has come at last, and the bee-keepers who struggled on with difficulty, make 1892 their last, and are disgusted with their luck once more. In bee-keeping particularly, "everything comes to him who knows how to wait;" this year is another proof (and I have a special private reason, in another direction, for handing in my testimony to the old Italian proverb). Let me tell you about the bacon-boxes I used as hive covers this last winter. I knocked part off the end of each to allow of free flight, and dropped one over each hive. Some were thick, stout, and heavy boxes, others were somewhat slender. Now, on carefully noting how the bees wintered in these (although a thorough disciple of the warm and dry theory) I find those hives with the thinner boxes over them, and giving the greatest amount of ventilation, came in an easy first; those others seem to have kept the bees so warm that they ate more stores, and ran dangerously near starvation, although they were amply provided on closing up for winter. I am forced to the conclusion that the semi-dormant condition is the one to be aimed for, and that can be secured by the freest ventilation, the hive entrances left full width, with extra space below combs where practicable, but dryness of the whole hive wood is a *sine quâ non*, as is a total absence of upward air-currents, this latter being afforded by waterproof quilts next to top bars, and plenty of porous wrapping over these. This year my top quilt was a sheet of tarry roofing felt, and very well I like it. Am I wrong in correcting your correspondent who, on p. 195, puts *Apis Liguria* instead of *A. Ligustica?*

They say the ritual of the Common Prayer-book allows immense latitude for divergence of opinion on certain points, so I suppose the ritual of rational bee-keeping must be equally liberal, for your valued correspondent, Mr. W. Woodley (tnan whom there is no more successful practical bee-keeper in the British Isles), sets his face firmly against the practice of feeding up *in poor districts* previous to the honey-flows. He says, on page 85, "Cast it to the dogs, I'll none of it." Good; so be it! He has no need of it. "His" (honey) "lines have fallen in pleasant places." But what about those who *cannot* get pure surplus if they do not practise this plan, and who *can* get it if they do? Given a brood nest full of brood, and fed stores at the commencement of a honey-flow, the bees take the clover or heather at once into the super, otherwise they fill the brood nest first with what is wanted upstairs. A spell of bad weather often comes, and they eat all they got whils the flow was on. Let those judge who are so placed as to be forced to decide between no honey (or little of it) by leaving them alone, and a fair return by feeding, as is your unfortunate—X-Tractor.

A REMARKABLE OCCURRENCE.

[1442.] It would be interesting to know whether any of your readers have met with circumstances analogous to the following incident, which, so far as I can learn, is unique in the records of apiculture:—

An experienced bee-master in this neighbourhood, with whom I am well acquainted, had several reasons for suspecting queenlessness in a strong stock belonging to a friend. A careful examination in the middle of April confirmed his suspicious. Not only was no queen to be found, but there was no sign whatever of brood or eggs, while stores were plentiful. With a view to remedying the unfortunate state of affairs he determined to introduce, by the Simmins method, one of his own best queens from an apiary two miles away. Having captured her, and having kept her for some hours in a box with a dozen attendants, he released these latter one by one late in the afternoon. While on his way to the queenless hive, and when within two or three hundred yards of its location, he had the misfortune to let the mother-bee escape with the last of the workers. Circling round two or three times, she flew towards a hedge and was there lost. Dusk having come on, it was useless to make any search for her, and my friend, sorely disappointed, turned back homewards. Three or four days after this occurrence, our expert, Mr. Baldwin, jun., on examining the hive was astonished to find therein a grand queen, *but only freshly-laid eggs*, no larvæ or brood in any other than the first stage. With such magnificent weather for breeding through March and April, the condition of affairs was distinctly puzzling, especially as Mr. Baldwin was unaware of the circumstances which had taken place previous to his inspection of the hive.

Now it seems almost impossible to doubt that the explanation of the presence of the queen and the eggs lies in the fact that the mother-bee which had escaped when about to be introduced by my friend, found her way to the queenless stock, either by invitation of some of the workers who had discovered her, or by her own natural sharpness, and was welcomed by the community so sorely needing her.

No theory of the hive not having been queenless is tenable in view of the facts of the case, nor does it seem possible to come to any other conclusion than that the queen lost in the evening went next day to the stock for which she had been destined at the time of her escape.—W. H. Harris, *Ealing, May 17th*, 1893.

[In confirmation of the above Mr. Baldwin, jun., writes as follows:—"I examined the

stock referred to in the above—which is the only one owned by the gentleman—on April 19th. It was fairly strong, had an ample supply of food, and had a queen laying as described by Mr. Harris. I was quite unaware that it had been queenless and that a new queen had been accepted by the bees, but I distinctly remember making a remark to the gardener, who was present when the stock was examined, that had I not united another stock to them last autumn they could not have held out so long, as there was no appearance of their having had any brood hatched out since the autumn." The curious occurrence described was discussed at the *conversazione* of the B. B. K. A. as reported on p. 202.—EDS.]

STERILE QUEEN.

[1443.] As a reader of long standing of your valuable paper, I take the liberty of sending to you by this post a queen-bee deposed from one of my hives on account of her not laying an egg, so far as I have been able to ascertain from occasional inspection, during the whole of the current year, notwithstanding the usual methods of stimulation by uncapping sealed stores and feeding a little with warm syrup and contraction of space in hive having been tried.

The stock of bees she was introduced to last autumn was fairly strong, covering six or seven frames, and, to strengthen them, a small driven lot, with this queen, was united to it, the old queen being first taken away from the stock. I then fed up rapidly with at least twenty pounds of good syrup (made of granulated pure cane sugar), and packed up warm in double-walled hive, with two inches left underneath body-box to give space under frames. After the severe winter weather was past, the lift was taken from underneath, floor-board cleansed, and body-box, with frames and bees, replaced thereon, and frames reduced to eight, for contraction. Subsequent periodical inspections have been made, and stores uncapped (as already stated), but in each instance without finding an egg or brood. The result is, the bees have dwindled to very few—say, not more than 300—which have been taken away and united to another lot.

I shall feel much obliged if you will kindly give your opinion as to the cause of failure of the queen?—which information may be of interest, and possibly of service, to other of your readers as well as myself.—EDWARD OAKES, *Broseley, Salop.*

[Queen sent has never been fecundated at all.—EDS.]

NOTES FROM IRELAND.

[1444.] 1893 is likely to be a record year so far as honey-gathering is concerned. On April 18th I put on a crate of sections on my best hive, and to-day (May 13th) removed same fully finished, a number of the sections weighing eighteen ounces. The quality and finish of the honey is fully better than any previous season in my experience. Our English cousins will thus see all the good weather has not remained in their kingdom.

A friend of mine two miles distant, Mr. Flynn, of Gilford, who runs a large apiary solely for the pleasure he derives from the hobby, gave me a look into some of his hives last week. It was a pleasant sight to see the fruits of such a promising season so fully demonstrated in his crates of sections; honey-comb designs, bell glasses and supers, all ready for removal. No sign of swarming yet.—J. D. MCNALLY.

HEREDITY IN BEES.

[1445.] After reading your article on "Heredity in Bees" in the *B.B.J.* of 11th May, 1893, I did a little think on the subject myself, and have come to the conclusion that the transmission of instincts and other mental phenomena from one generation to another among bees may, perhaps, be accounted for by another theory which your learned friends seem to have quite overlooked. It is well known that among the higher animals (human included) a female, during parturition, may have the characteristics of her offspring very materially affected by impressions received from external sources. Thus, a woman at such a time may see a child with a club-foot, cross-eyes, or other peculiarity, and from the impression thus received, her own child may be born with a like characteristic.

May not, in like manner, a queen-bee, whose nervous susceptibility, in my opinion, far exceeds the human, receive impressions from the workers among whom she lives (even if other than her own race), and transmit them to her offspring? I think this solution is far more likely to be the correct one than either of those suggested, viz., nourishment, transmitting qualities of instinct, or *latent* heredity.—S. HUME, *Hastings.*

MANY-QUEENED HIVES—EXTENDING THE "WELLS SYSTEM."

[1446.] Seeing by your *Journal* such favourable results from the "Wells" hive, I venture to ask is there any reason why the principle should be confined to two colonies of bees? If two stocks can live together amicably, and work with increased energy, why not three, six, or eight, as most likely the workers will keep pretty closely to the supers immediately over their own brood chamber? Colony No. 1 would know No. 2, and No. 2 would fraternise with Nos. 1 and 3, and No. 3 be familiar with Nos. 2 and 4, and so on. The entrances could be carefully divided, and each painted a distinctive colour. It appears to me we should then be approaching the habit of bees in their natural way of working, such as when they take to the roof of a

house, as they increase, they appear to separate into families, sometimes with one or two supers (and space) between, until a large portion of the roof is covered.

The advantages I should expect would be economy of heat in the winter, there bring so few outside walls; facility for protecting in sunny weather, or, if preferred, a shed would cover the lot; less labour in working, together with all the advantages of the "Wells System." Of course the hive would be constructed to suit the altered circumstances, so that any one colony, or super over same, could be examined or manipulated independently of any others. An exhaustive article on the subject would, I feel sure, be greatly appreciated.—JAMES MCKEAN, *Castleblaney.*

[We print the above communication as expressing what has already been thought of by several readers, whose views, though conveyed to us, were not intended for publication. We may, however, say at once that in our opinion it will be a waste of time to go on experimenting in the direction indicated. Depend on it if there had not been weighty reasons against extending the co-operative principle to the extent referred to, our American bee-keepers who, besides being good bee-men, love a "big thing," would have worked the idea out ere now. To slightly alter a useful adage, we had better "let 'Wells' alone." Or, at least, let us make a success of the two-queen system before extending it further. —EDS.]

HONEY SHOWS IN LONDON.

[1447.] I see there is to be an exhibition of "Agricultural and other Produce of the British Empire" held during the next three months; could not the B.B.K.A. get up an exhibition of bees and honey in connexion either with this or with the Horticultural Exhibition at Earl's Court? As the former is chiefly for the advantage of farmers and cottagers, it seems to me to be a good chance of advancing the cause of bee-keeping, and bringing it before the public. If it could be managed, Mr. McNally *might* then get his long-looked-for national show.—KING BEE, *Notts, May 18th*, 1893.

P.S.—The long drought has at last come to an end, and the thunder-showers of the last few days have, I hope, saved some of the clover, which is just starting to bloom on the roadsides. I hear a great deal of the clover-plant has been killed, but have not noticed it myself.

Queries and Replies.

[786.] *Wiring Foundation—Crooked Combs.* —Despite the greatest care, I sometimes suffer from crooked combs, and frames united and thus spoiled. This I attributed to the whole sheets of brood foundation not keeping quite straight (buckling) after being introduced into the hive. I decided to use thinner foundation and wire it, but regret to say have utterly failed in my attempts. The wire appears to be imbedded in the wax, however carefully I heat and work the "wheel" for the purpose. You would greatly encourage the ignorant by minutely describing how to proceed, and the various implements necessary, how to attach the wire to the frames, &c.—JAMES MCKEAN, *Castleblayney.*

REPLY.—It is not wise to use thin or super foundation in brood frames even if wired, but if the ordinary thick foundation is used and the frames are properly "wired," there should be no difficulty in keeping combs straight. It might be well for you to get a few frames with foundation wired in from some appliance dealer as patterns to work by. You then could see where the weak point of your own method was.

[787.] *Self-hivers, &c.*—I have lately commenced bee-keeping, and as I am only at home the latter end of each week, I am wondering how I can avoid losing any swarms. I have seen several swarm and queen traps mentioned, but not explained. 1. If this should be too big a subject for your query column, could you tell me of any book explaining the system? As the hives are situated close to a deep railway embankment, of which I could have about two hundred yards on each side for asking. 2. Is there any way of utilising it for bee-food, and if so, what would be the best way of planting it? It is now covered with grass, which is mowed once a year and then burnt. 3. Is there any advantage in double-walled hives?—A BEGINNER, *Scarborough.*

REPLY.—1. A self-hiver might answer your purpose, but a queen-trap would not, seeing that you are away all week. Why not try the hiver illustrated on p. 165 of *B. J.* for April 27th? 2. A dozen or two plants of gorse or bloom would be of advantage for early pollen, if that happens to be scarce in the district. Beyond this we could advise no other way of utilising the space beyond scattering white clover seed on the embankment in the early spring. 3. Double walls to hives are supposed to protect bees from extremes of both heat and cold.

KEEPING DOWN INCREASE.

When a colony swarms, I generally have one crate of sections or more on it; but if I do not, I take one from some other hive, or one with the sections with full combs in them. I now set the old hive off the stand and put on another hive-body on the old bottom-board, with five brood frames in it, with starters in them spaced only 1⅝ in. from centre to centre, and fill up the space with dummies. I next put on my queen-excluding honey-board, and then the crate of sections from the old hive, after which a half-

depth body; over this is placed another honey-board, and, last of all, the old hive on top of the whole. I now run in my swarm, that will show box honey if there is a good flow of honey. I next bore a one-inch auger-hole in the old hive, on the opposite end from the entrance below, so the young queen, when she come out to mate, won't go in at the bottom entrance where the old queen is and get lost. Seven days after the hive swarms I take out the top brood frames, and pinch off all the queen-cells but the best one. Ten days after the colony has swarmed I remove two dummies in the bottom hive, and put in two brood frames with starters in them in the centre. In seven days from this I take out the other two dummies and add the other three frames with starters, placing them in the centre, as before. As soon as the young queen begins to lay I take the old one out and put young one in her place in the bottom hive. The old queen I sell, kill, or make a nucleus with. I thus get a young queen every year. Moreover, in seventeen days from the time my hive swarmed I have ten new frames in the bottom body, and all worker-combs, if I have a good queen in the hive to start with. If they build a little drone-comb, I cut it out and put in worker.

If I had all the combs I wanted, I take the combs from the top story to add to the bottom body, simply using the top for a nucleus to raise the young queen in.

The reason I think most bee-keepers failed in this plan was, they left five brood frames in the hive till the end of the season and took all the honey they could get in the sections, and then were disappointed because there was so small a swarm of bees left, and no honey to speak of to winter on; and then they had to be fed, and the swarm was not strong enough to winter. My way is different from any other I ever heard of, and it works better than any plan I ever tried, because it keeps the swarms big and strong all the time.—CALVIN C. PHELPS, *in "Gleanings."*

Bee Shows to Come.

June 7th, 8th, 9th, 10th.—Hants and Isle of Wight B. K. A., in connexion with Royal Counties Agricultural Society, at Southampton. For schedules apply to E. H. Bellairs, Wingfield, Christchurch.

June 14th and 15th.—Essex B.K.A. County Show at Romford, in connexion with the Essex Agricultural Society's Show. F. H. Meggy, Hon. Secretary, Chelmsford.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 19th to 21st.—Lincolnshire Agriculture Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

July (date not yet fixed).—Berks B. K. A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from Colonel Bennett, Alloway Park, Ayr, or John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

KING BEE (Notts.)—Flower sent yields honey, but is never grown in sufficient quantity to render its value of any importance as a honey plant.

MRS. C. CLARK.—*Two Queens in a Drone-breeding Stock.*—The abnormal drones referred to, and the failure of the stock to make any headway, point to something being wrong with the old queen, which has caused her premature loss of fecundity. A queen only in her second year cannot be termed aged. Is it not likely that she was in some way injured at the show when exhibiting the stock last autumn? In any case, it was quite a mistake to remove the young queen just hatched, and living amicably with her parent. Had she been left in the hive, the old one would probably have soon disappeared after the young

queen was fertilised, and had begun laying There is no chance for the old stock doing well so long as the failing queen continues at its head, and the bees are not to be relied on for making a second attempt to depose her themselves, though they might do so. We should take away the old one, and watch if queen-cells are raised; if not, the bees—if worth it—should be re-queened.

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THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

AN AFTERNOON IN A COTTAGER'S APIARY.

A visit to Warwick on official business connected with the bee department of the "Royal" Show held there in June of last year, led to the spending of a very pleasant couple of hours in the apiary of that well-known veteran bee-keeper, Mr. John Walton, of Weston, a few miles from the famous historic town. The "notes" taken on the occasion referred to were intended for use along with others of a like character connected with a series of one-day holiday excursions contemplated at the time, and intended to include a brief description of several apiaries belonging to readers of this paper; but, alas! "Man proposes," and editorial work in busy London keeps so tight a grip on the time of those whose labour includes correspondence with bee-keepers as to sadly interrupt the "holidays." Consequently our notes labelled "John Walton" are becoming somewhat "stale," through being pigeon-holed for so long a time, and the recurrence of another "Royal" Show just now renders the occasion in some sense a fitting one for bringing them to light, and giving a few particulars regarding a very worthy representative of the best type of our cottager bee-keepers.

Starting from our headquarters at Leamington-Spa on a fine day in the "show" week, we drove three or four miles through a beautiful part of Warwickshire before reaching Honey Cott. And a very pretty little "cot" it is, nicely retired—just far enough away from the main road to suit the owner of a goodly stock of bee-hives—and surrounded by all that makes a "model" for an English cottager's home. The front, facing south, is covered by a large plum-tree, loaded with fruit when we saw it. Flowers, fruit, and vegetables grow in abundance in the good-sized and well-kept garden facing the cottage. Indeed, the neatness, scrupulous cleanness, and order prevailing everywhere, inside and out, made it quite delightful to contemplate how many of God's best gifts are available in a humble home with such occupants as John Walton and his good wife. Our host met us, and, after a cordial greeting, we were soon busy among the bees. The most prosaic—though by no means a dull or uninteresting—part of the surroundings is the bee-*yard*, which, in every sense, it is. No one would call it a bee-*garden*, for nothing grows in it if we except bees and honey. The bee-yard, then, is situated just beyond the cottage-garden, on one side of a meadow lying between it and the road. The hives—between fifty and sixty in number—are all "bar-frames," and stand in just so much space as will hold them, and allow passage-way between each, the limited space at command compelling this arrangement, while the entrances in many of the hives face each other. Altogether, it strikes an onlooker how advantageous it would be to have the hives occupying about four times the space. However, as one sees plainly, the bees have grown and multiplied, while the size of the yard perforce remains stationary, so Mr. Walton makes the best of it, and is too old a bee-man not to be able to maintain order, even in so crowded an assembly of "workers" as his.

Looking around, we notice very needful mems. chalked on the backs of the hives, such as:—"Supered May 23rd for extg.," or, "Q-cells due June 25th," and such-like, which keep the bee-keeper in "touch" with his bees and their work. All the hives are numbered, and many have special appellations painted thereon, historical, humorous, and otherwise, commemorative of some event associated with each. Mr. Walton, being himself a carpenter by trade, makes all his own hives, besides many of the appliances used. He has no less than five workshops and manipulating-houses of various kinds, some inside the cottage—cosy little places these, where the "winter evening's work" goes on—and others out among the bees, where, in the early summer evenings, after the day's labour of superintending the workshops at the Reformatory close by is done, he can pursue his bee-work, while, through the window in front, the enormous crowds of his little assistants labour under the eye of the (bee) master.

In one of these workshops were piled racks of sections, ready for use, reaching from floor to ceiling. In another—the extracting-house—all the extracting is done, and done well, by the very machine with which Mr. Walton took a prize at the Alexandra Palace ever so many years ago.

Then we passed out among the hives again, and had a look into several of the stocks. The bees are almost wholly hybrids (Carniolan and black), this being the variety our friend prefers. All the colonies were doing well, the almost uniform strength of the stocks evidencing attention to this important point, but as that part of Warwickshire is not an early district, the main ingathering had not begun at the date of our visit.

As may be supposed, with so large a number of colonies on his hands, Mr. Walton has naturally "drifted" into a little bee and honey trading, and sends away during the season a good many swarms to various parts of the country. We were much pleased with a simple "travelling box" used for this purpose. It is of light, rough spruce, and measures 16 ins. long, 11 ins. wide, and 7 ins. deep. It has no lid, the open side being covered with coarse cheesecloth, while on the opposite side is cut a large circular hole, into which fits the mouth of a huge funnel. When a swarm is being "packed," the bees are poured into this funnel, slipping down into the box; of course, the hole is then covered with cheesecloth, and the box, when corded up, travels on its side, so that the bees cling to the rough wood above, and there is ample ventilation on both sides. No swarms take any harm when travelling in this way, while the cost of material and trouble of making are so trifling that the boxes are never "returned."

After seeing all we could outside, we passed indoors for rest and refreshment. Then the indoor workshops were overhauled, and, as we have already said, cosy little places they are for fitting up sections, preparing hives, and doing all the odd jobs required for the coming bee-campaign.

We had afterwards evidence of our host's mechanical skill in the shape of an actual home-made Harmonium, and a very excellent one, too. In fact, after a most enjoyable afternoon, we left Honey Cott full of the conviction that the home surroundings of a cottage bee-keeper of John Walton's type may be made as fruitful in making life worth living as would the possession of thousands.

BRITISH BEE-KEEPERS' ASSOCIATION.

Conversazione.

(*Concluded from page* 203.)

The Rev. Mr. Bancks was inclined to believe, from an experiment he had made, that bromine would destroy the spores. He had inoculated a tube, and made a cultivation of foul brood. After subjecting the piece of comb to the fumes of bromine, he inoculated another tube from the first one, and removed it out of the influence of the bromine, when the cultivation was not only retarded, but no development ensued.

Mr. Carr thought it might be assumed that there were no ready means of destroying the spores, or the eminent scientists who had experimented so much in that direction would have made the fact known.

Mr. Blow quite agreed with Mr. Carr that the remedies at present in use *were* cures, and were much easier applied than Mr. Bancks plan. Salicylic acid, phenol, and Naphthol Beta were almost identical in their action on the brood, and were exceedingly simple of application. If the strong remedies quoted were put into use generally, 99 per cent. of the bees would be killed; but if the simple methods were resorted to in the bacillus stage, that was all that was necessary. Mr. Cheshire proved clearly that phenol acted on the bacillus and killed it, and the stocks were eventually cured.

Mr. Cribb endorsed Mr. Blow's opinion, that the remedies generally used were absolute cures. In introducing the vapours referred to into the hive, it must be borne in mind that all the open cells and honey would become permeated with it, rendering the cultivation of bacilli practically impossible. Then, too, the impregnated food would find its way into the alimentary canal of the bee, and thus would destroy the bacilli. He could quite understand the bees leaving the hive when such a drastic remedy as bromine was employed. He thought Naphthol Beta a simple and perfect cure.

Mr. Harris hoped Mr. Bancks would pursue his experiments, which were extremely interesting.

Mr. Carr invited Mr. Bancks to bring the matter up again when Mr. Cowan was present. No doubt that gentleman would be able to throw some light on the matter.

The Rev. Mr. Bancks said that, according to Koch, twenty per cent. of salicylic acid applied for three days had no effect on the spores beyond merely retarding the development of them.

Mr. Till thought the meeting was much indebted to Mr. Bancks, who he hoped would not be discouraged by the somewhat adverse criticism of his methods.

The Chairman expressed his hearty concurrence with Mr. Till, hoping Mr. Bancks would continue his investigations. He did not think that any one should be deterred from experimentation by the knowledge that eminent men were pursuing the same inquiries, neither did he consider that we should be chary of making known publicly remedies which could only be used by scientific persons, or persons of scientfic methods. If a good remedy could be found he was quite sure science would devise the best possible means of putting it into practice.

Mr. Till asked whether any one present had any experience of detecting disease by scenting it at the mouth of the hive? He had found diseased hives with quite a healthy smell, and sometimes the reverse.

Major Fair thought bad smell was no proof of disease, but arose from bad ventilation.

Mr. Carr agreed that smell was delusive, badly diseased hives often being almost odourless, while the natural odour of brood and of newly-gathered honey at some seasons was very misleading to the inexperienced.

Mr. Sheppard, in response to the Chairman, stated that on the previous Saturday he had extracted from one "Wells" hive fifty pounds of honey, and from another seventy pounds. These hives were supplied with standard frames, and were the only two hives of the kind in the neighbourhood. In one case the bees were put in last autumn and wintered there, while in the other they were admitted in the early spring of the present year.

The Chairman congratulated Mr. Sheppard on his success, especially considering that the season of the honey harvest had not been reached. Sainfoin and trifolium was not yet in bloom in his own county.

Mr. Blow's new glazed section was exhibited. It was beautifully made, the glass being dropped into a rebate after the section was folded up. Thus fitted up it was intended for use in the hive, the glass serving the purpose of a divider, yet capable of being easily replaced should it become smeared or accidentally broken.

Mr. Cribb pointed out that this arrangement would reduce the weight of the section by at least two ounces, independent of the fact that the section was a full sixteenth of an inch thicker than the ordinary standard section. He thought that these facts would disqualify it for exhibition at shows.

Mr. Soar was of the same opinion as Mr. Cribb, believing that the weight would be even reduced fully as much as two ounces.

Among the other novelties sent for inspection and comment were a new super-clearer just introduced by Mr. Meadows, which contained four clearers or bee-escapes.

Mr. Carr, while approving of the appliance, thought that it would be still more effective, as well as being less costly, if one, or at most two, escapes were used instead of four; because the more complete the severance between the super and the hive below—short of actual separation—the better a clearer worked.

A frame with a new method of fixing foundation was also shown, by means of which a solid and extra strong top-bar could be used, no saw-kerf being needed to fix the sheet very firmly. This frame, in the opinion of those present, seemed to possess practical advantages, though, as was observed by one speaker, the thickness of the top-bar ($\frac{3}{4}$ of an inch) reduced the cell-capacity of the frame.

Mr. Sheppard said there would be no brace combs built on a frame of that kind, which was a decided advantage.

After some discussion as to the desirability or otherwise of teaching cottagers the use of straw skeps in preference to the frame hive, the Chairman remarked that the technical instruction granted by the Kent County Council included the management of skeps. The first day out of the five days allotted was taken up with skep management and demonstrations.

Mr. Till said he had heard that the Lancashire County Council had agreed to the establishment of nine centres, where instruction was to be given and fixed apiaries established.

The Chairman thought there ought to be some means of carrying on the instruction after the classes had been taught, and it would be a good thing to have object-lessons right through the season.

Mr. Carr said that only in a few instances would the grant of the County Councils permit of such liberal instruction as was given in Kent and Lancashire, where the allowances were as much as 200*l.* or 250*l.* In Berkshire the grant had been increased from 50*l.* to 100*l.*, the extra 50*l.* to be expended on the equipment of a travelling bee-van. There must be some carrying on of the work begun by the lecturers to a definite conclusion, and that could not be done unless hives and bees were at hand for the purposes of practical instruction: but it was most important that definite results should be shown and reported to the County Councils, so that they might be assured their money was being expended judiciously.

The Rev. Mr. Lamb and Mr. Cribb were both opposed to travelling apiaries, considering that it would be far better to obtain the temporary use of local apiaries for demonstration purposes.

The Chairman said they could not rely on such assistance in his county. With regard to the following up of instruction, he felt that when the lectures had been delivered in most of the districts of the county, it would be a good thing if the County Council could be induced to send round somebody who could render assistance without cost to the bee-keeper.

Some discussion then took place as to the precautions necessary to be taken by experts when visiting apiaries where foul brood might exist, after which the proceedings terminated in the usual way.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

REMARKABLE OCCURRENCES CONNECTED WITH QUEENS.

[1448.] Do not "remarkable occurrences" in the apiary often repeat themselves in a season? *E.g.*, in 1891 many queens were mated very late, the wet summer having kept them at home; in 1892 honey in many districts granulated early; and now, in 1893, bees have been most active in superseding queens. The accession of a queen in Mr. Harris's case (1442, p. 206) is

strange. The following is not so striking, but appears to be more inexplicable. On March 30th I found a hive queenless; this hive had thrown out many bees after the cold winter, and I supposed the queen was one of the defunct. I gave a frame with one queen-cell sealed (and found out afterwards that that was the only queen-cell the other hive had for superseding with). This cell was destroyed. On April 22nd, no brood, inactivity. Put in a frame with eggs. April 28th, no eggs, no queen-cell; young bees hatched from added frame nursing the remaining and only brood; some little pollen coming in. May 6th, no fresh brood or eggs; gave a frame with unsealed but inhabited queen-cell, with royal jelly taken from a *super* with the queen laying *below, under excluder*, a fertile worker in the super having just discontinued laying. (Please do not think this was a young queen laying in the super before fertilisation. The hive was the one from which, on March 30th, I took the queen-cell, and found afterwards it was queenless. A fertile worker took up business actively. But by April 28th I had a young queen in good lay there, and then the worker gradually eased off in the super. I had left the super on under excluder all the winter.)

May 13th.—Queen-cell destroyed; still no sign of a queen; gave another frame with eggs. Our Association expert, Mr. Hamilton, also examined the hive on this date.

May 22nd.—No queen-cell on last added frame, and not an egg in nest. Gave another frame with eggs.

May 27th.—Found eggs where the young had hatched out; then found her majesty, lively, with light pubescence, not large, and I thought young. Now, I did not *always* look closely enough to be sure there was no queen-cell in some side or corner—it, of course, did not occur to me to do so; but I know it was not on any frame I gave a week after putting in, and I made careful search through the middle of the hive for eggs or young brood every time. The advent of the queen (or, as a remote chance, the long suspension of her functions) is difficult to understand.—S. JORDAN, *Bristol, May 27th.*

THE "WELLS SYSTEM" AND WEAK STOCKS.

[1449.] Mr. Woodley points out the facilities which the "Wells system" affords for uniting weak stocks and securing honey by allowing them to work in a common super. Some weeks back I placed two such stocks in one hive, separated by a Wells dummy made one-eighth of an inch thick, and bound at the edges with zinc. About a week afterwards I placed a super on. On examining the hive a week later, I found that the dummy had warped so considerably as to interfere with the combs on either side of it. I therefore took it out, but having no other available, I decided to let the two stocks become one, and replaced the super, expecting to see one of the queens thrown out next day. As no queen was ejected, I began to wonder whether both still lived. A fortnight later, on overhauling the frames, I discovered both queens laying and living amicably in what is now one stock. To-day, after a month from the removal of the dummy, the two royal ladies are still enjoying a joint reign. This seems to indicate that fertile queens do not bear any aversion to one another when both have acquired the same scent. Or is it that the workers being peaceably inclined do not stir up the strife which leads to the royal duel? Doubtless the uniformity of scent is the principal factor. Perhaps others who have joined weak stocks by the above plan may be able to report a similar result. The above development was quite accidental, and in no way a result of any attempt to improve (?) the "Wells system."—THOMAS BADCOCK, *Southfleet, Kent, May 26th.*

QUEEN RAISED WITH LAYING QUEEN IN SAME HIVE.

[1450.] On looking over one of my stocks recently, I found several queen-cells (one sealed over), and as the parent queen was an old one, I determined to try to raise a young queen to take her place from one of these cells. The hive was full of bees and ready for supering, so I added a box of standard frames above, and removed the queen into this box or super, confining her by means of a close-fitting excluder or diaphragm to five frames. I likewise covered frames in brood chamber with excluder zinc, but also added one thickness of American cloth on this excluder the width of the five frames, so that the two queens could not possibly get together; then having removed all queen-cells but one, I returned the frame containing the sealed cell into the brood chamber or bottom story again. On looking over the hive on Monday last, the 22nd inst., I found a fine queen in bottom story with eggs on both sides of two frames; so I removed old queen from lift and American cloth from between them, satisfied with my success at the venture.—J. B., *Durham, May 26th.*

OBSERVATIONS ON AND EXPERIENCES WITH THE "WELLS" HIVE.

[1451.] Like a good many other bee-keepers, I caught the "Wells" fever in the spring of this year. I constructed a hive, forty-five inches long, of the standard width and depth, having entrances *in front*, extending from end to end, with the exception of about six inches in the middle. In the centre of the hive, I placed a perforated thin dummy, having 200 holes burnt through, of one-eighth inch diameter. On each side of the dummy I put a stock of bees—No. 1 containing ten frames, No. 2 containing eight frames—all fairly covered with bees. On the top of the frames I placed excluder zinc over both stocks. About a fortnight having elapsed, I removed the coverings to see how they were getting

on, and then I saw the first indication of the "union of hearts" between the two stocks, for I observed many bees come up through the excluder from No. 1, and go down into No. 2, apparently without molestation, and *vice versâ*, others came up from No. 2 and descended into No. 1. This set me pondering the question, whether they used the two entrances indiscriminately; but this I found difficult of proof, as both stocks were black bees. I therefore placed a glass cover over some half-dozen bees as they alighted in front of No. 1 hive, and discharged them in front of No. 2, which they entered as if it was their own home. This I did repeatedly from both stocks with a like result.

Having observed that the stock in No. 1 increased to twelve frames, while that in No. 2 remained almost stationary in eight frames, I thought I would equalise the two by transferring two frames from No. 1 to No. 2. This I did, shaking all the bees off into their own compartment. This necessitated shifting the dummy, and judge of my surprise, Sirs, on finding nearly all the perforations stopped! What can that mean, and what becomes of the "similarity of odour" theory? The few holes that were not plugged up were evidently in process of stopping, and the stopping is in all cases in the *centre* of the thickness, and does not extend on either side to the surface of the dummy, from which I infer that it is the work of both stocks alike.

When I took the dummy out there were many bees on each side of it; these I shook off on to flight-board in front, and they used both entrances without hesitation. I inferred from this fact that perhaps I need not have displaced the bees from the two frames that I transferred from No. 1 to No. 2, for as far as the bees themselves are concerned, I think it is proved that the two compartments are evidently only one stock.

It might be interesting to know whether my experience coincides with that of other "Wells" Hivites. The season here is too dry to produce much honey; swarms are very scarce, and but few supers are yet filled.—T. I., *Maldon, Essex, May 27th*, 1893.

BEES IN THE MIDLANDS AND IN THE SOUTH.

[1452.] In the Midlands (South Derbyshire) bees in ordinary seasons take to the supers about the end of May, but this year, owing to the early blooming of fruit-trees, hawthorn, &c., supers were taken possession of at a much earlier date, although, as yet, no quantity of honey has been harvested. The white clover being our chief source of supply, the object of the bee-keeper is to get his stocks into a strong condition by the time the clover begins to bloom freely. The second week in June is the usual time when our honey-flow commences, and when we expect to find supers rapidly filling.

During Whit-week I was staying with a friend in Hampshire, and a veritable paradise for bees I found it. The hollows of the fine old elms abound in what may be "wild" stocks of a vigorous strain of black bees (originating from stray swarms), which this year threw off swarms as early as the middle of April. Two swarms took possession of crannies in the roof of the parish church whilst I was there—my friend has three swarms in possession of different parts of the roof of his house—whilst several stray swarms have been captured, some of which I examined, and found the brood chambers, within a week of their being hived, full of brood and honey; others of the same age were hard at work in the supers. I found that my friend had removed several supers, and I had the pleasure of assisting in the removal of several more, all well finished and containing beautiful honey of a rich yellow tinge.

All the stocks had two or three supers on, and all crammed full of bees. At a neighbouring apiary, I found foul brood in one hive, one hive rather weak, but all the others strong. I advised the immediate destruction of the diseased stock, and the melting down of the comb. I consider the presence of this diseased stock as rather remarkable, seeing that all its neighbours exhibited vigour and health. In looking about for the source of all this plenty, I saw acres upon acres of sainfoin, with its beautiful purplish bloom, nearly ready for the mower. Following this, will come the white clover, limes, and buckwheat, large breadths of which are sown for the game which abounds in the locality. My friend is a most successful bee-keeper, and his rule is never to extract from the brood combs—he rarely interferes with the brood chamber—but he is most careful to supply an abundance of natural stores, and in spring he feeds with comb honey any stocks that may require food, and by supplying abundance of "wrapping," he gets his bees into a fit condition for the very early honey-flow with which that part of Hampshire is blessed.—GWENYN.

BEES IN BERKS.

[1453.] I have safely hived my first swarm—a very large one—to-day (May 29th). Bees did not store surplus honey here till the 25th, but they have all entered the supers now and are collecting fast. The clover looks very promising, and the lime-trees will be in bloom in about twelve days. If we get another fall of rain shortly, I fancy we shall get abundance of honey this year. The bees were working at five o'clock this morning as busily as if it had been midday.—GEORGE HEAD, *Winkfield, Berks, May 29th.*

BEE-PLANTS.

[1454.] Although some hundreds of bee-plants have been sent to England, Ireland, and Scotland, there are still a few left for any bee-keepers who have not tried them, or have inadvertently been overlooked.—H. CRAWLEY, 250 *Canbury Park Road, Kingston-on-Thames.*

Queries and Replies.

[788.] *Swarms Deserting "Wells" Hives.*—I have two beehives made for working on Wells' system. In the first week of May I put two swarms in each hive, one each side of the division-board. I sprinkled the bees well with syrup on hiving, and fed them with it afterwards, but one swarm from each hive flew away; the two remaining swarms, however, are working all right. On the following week I put in two more swarms to replace those that flew away; one of these immediately left their own side of the hive and went into the other with those that were there before, and remain there, but the swarm that I put in the other hive at the same time have nearly all gone back to the parent hive. There only remains about three parts of a pint of bees in the hive. 1. Would you kindly advise me what to do under these circumstances? 2. Will the small quantity of bees remaining get strong enough by feeding, or would it be advisable to put in another swarm with them? The parting is all correct, with perforated board in bottom chamber and with division at entrance. I wish to try the double-queen system, so would be very thankful if you would advise me how to get them to stay in their proper place.—MATHEW HIDER, *Withyham, May 20th.*

REPLY.—If the hive is properly and effectively divided and the bees cannot get at each other from the inside, we cannot possible understand why two swarms should not remain and work in it just as they would in two distinct and separate hives. Are you perfectly sure that each swarm had a queen? Again, when on the second attempt to introduce a swarm, the bees "left their own side of the hive and went in the other," did they join from the inside or how? Altogether your failure bespeaks mismanagement somewhere, but it is quite beyond us to say where. There was no use at all in sprinkling the bees with syrup when introducing the swarms, but even *that* mistake does not account for the repeated failures. 2. The handful of bees remaining of the deserting swarm are of no use whatever as a stock, even if they have a queen with them, which we doubt. With every desire to help you, we do not see how to give useful advice from a distance. Cannot you get some neighbour who is more experienced than yourself to advise you in the matter, as we could do ourselves effectually enough, no doubt, were we enabled to see you and your hive.

[789.] *Queen-raising.*—1. I have about a dozen hives, all with queens two or three years old. I wish to replace them by younger ones. Kindly say whether there is any objection to the following method:—About 1st July remove queen from a strong stock (say hive No. 1), getting queen-cells built from selected eggs. About 6th July from six hives (say Nos. 2, 3, 4, 5, 6, and 7), remove the queens which are to be superseded. About 15th, cut out from each of these six hives a capped queen-cell, and replace it by one which will be ready to hatch from No. 1. The advantages of the method seem that a queen is obtained from selected eggs, and is hatched five days earlier than the others in the hive in which it is placed, and swarming may be prevented. 2. Can I preserve the old queens during this experiment in case any of the young ones should fail to mate, and, if so, how?—Z., *Gloucester, May 23rd.*

REPLY.—1. Our objection to the plan proposed lies in the fact of its causing loss of produce by upsetting and disturbing so many hives at a date when all of them ought to be working in supers, and winding up the season's labours. Besides, you could not rely on having so many as seven *good* queen-cells raised in the selected hive. We should prefer to re-queen by letting a couple of hives out of the dozen swarm—as they probably will without being *let*—and, after hiving the swarm in skep, proceed at once to divide the brood, remaining bees, and combs of the parent hive into three nucleus colonies, giving two or three combs of brood and two of food to each. Make them snug and warm, and set them down in sheltered corners till wanted. The swarm is then hived in the original brood chamber—the latter being fitted with foundation and ready-built combs if such are at hand—and the super replaced. In the autumn such of the nuclei as have successfully raised queens may be added to the stocks it is deemed desirable to re-queen. 2. Queens may, with care and feeding, be kept alive for a fortnight or more in a combed section, along with a couple of dozen worker-bees.

[790.] *Colonial Honey.*—1. Will you please tell me if Colonial honey is as good in all ways as British? 2. Are there any one-pound sections imported to London? 3. Would it be unlawful to label it "Pure Honey?"—A WORKING MAN.

REPLY.—1. We do no injustice to our colonies by saying "No" to this query. Good colonial honey there is, no doubt, but much of it is so rank and strong in flavour as to be wholly unfit for table use. This is especially the case in some parts of Australia and New Zealand, where the "Titre" and the various eucalyptus or gum-trees grow so abundantly as to quite spoil the flavour of the better-class honeys collected in such districts. 2. Not of late years so far as we know. 3. It is obvious that honey which is pure cannot be legally impure. We have no business, perhaps, to inquire into the reasons which prompt "A Working Man" to make the above inquiries, but offer a friendly hint to exercise caution, if it is his intention to "speculate" in the honey business.

[791.] *Uniting Swarms.*—I have had two swarms from two skeps which I have put into bar-frame hives, and as neither of them are very

heavy, should like to unite a second swarm to each. Will you kindly tell me—1. If I shall be safe in doing so on the same day as the swarm issues, first destroying the queen that came out with the first swarm? 2. Or if I destroy the queen with first swarm, and do not unite them till next day, would not the bees begin to make queen-cells, and so cause trouble? 3. In either case would the best way be to run the second swarm in at the entrance?—F. Howell, *Poole, Dorset, May 29th.*

Reply.—There will be considerable risk in uniting a second swarm to one already established in the frame hive for several days, and we should not advise your trying it unless you went to the trouble of removing the bees now in the frame hive from their combs, and so reducing them again to the condition of a swarm. If this were done, and the old queen removed during the operation, the bees might be shaken up, along with those of the second swarm, and so united; but seeing the trouble involved, would it not be best to "let well alone?"

[792.] *A "Flower-pot" Super—Giving Room in Skeps.*—About the middle of June last year I took a ten-pound super of honey off a straw skep, which super was neither more nor less than a large flower-pot! The bees worked nicely in it, and filled it in a very short time. I then placed an empty skep on the stock, and the bees appeared to be doing well—in fact, this spring they were much increased in numbers. About ten days since great quantities crowded around the hive's mouth and under the coverings at the sides; but now that it is colder—since the copious rains—I find they have crept still further under the coverings of the skep. Had I better give them more room by putting an empty skep and taking off the super skep, which I have no doubt is well filled with honey, as my bees have worked splendidly this spring up to present date?—J. B. Heale, *Crediton.*

Reply.—By all means remove the super at once and substitute an empty one for it. The bees want room for storing, and will probably swarm if it is not given. You might enlarge the skep by eking below, but that would mean a lot of undesirable drone comb in the added space; so the best plan is to give the room overhead.

[793.] 1. I have a frame hive quite full of bees, I don't want it to swarm, and can give no more room, except to put on section crate; there is no honey-flow till clover, which will be in full bloom in a fortnight or three weeks. Would cutting out queen-cells keep the bees from swarming? 2. I see on one frame about fifty drone-cells full of hatching brood, others flying. Are these drones of any use when I don't want a swarm? 3. I have two skeps with three-year-old queens, and would like to replace with queens from second swarm. Could I preserve young queens till they are fertilised and laying, so as to lose no egg-laying between killing the old queen and introducing the young one? 4. When putting on queen-excluder for supering, should I put strips of three-eighths of an inch wood on top of frames, or excluder flat on frames? 5. I have a hive on the Wells system. Would you advise my using full sheets of strong foundation in stocking it with swarms? 6. What is the insect sent? It has a sting.—Jos. Mitchell, *Addiewell, May 26th.*

Reply.—1. If queen-cells are now formed, they had better be removed and a section crate put on at once. This should stop swarming. 2. None whatever under the condition referred to. 3. We cannot say what plan you purpose following to make this query apply. Write again, explaining your intended plan of procedure more fully. 4. Put the excluder direct on frame tops. 5. Yes, if the foundation is wired in. 6. Insect was smashed beyond recognition in post. It is, we think, one of the numerous family of wasps.

[794.] *Casting out Drone Brood.*—On the first day that rain came (May 15th), a quantity of drone brood was thrown out of one of my hives. I thought it meant that the bees were in want, and gave a small amount of food for a few days. On examining them this week, I found that not only had they a lot of honey at the tops of the frames, but three frames solid full on both sides. 1. Why, do you think, did they cast out the brood?—and 2. Would it be well to extract from the full combs, and feed if it becomes necessary?—N., *Stafford.*

Reply. — 1. Just about the date named, several cases of drone-killing and casting out of drone brood were notified to us. We attribute it simply to the weather. There was, about that time, quite a general stoppage of income for a few days, and this, we think, has caused the mischief you complain of. 2. No; we should, in preference, at once give surplus room.

TECHNICAL EDUCATION IN BEE-KEEPING.

The Berks Council, by increasing the grant of 50*l.* to 100*l.* to the Berks Bee-keepers' Association, are making a new departure in technical education. The additional 50*l.* is made to purchase a travelling van for the purpose of sending lecturers into the rural districts for the teaching of practical and humane bee-keeping. We understand that arrangements are being made to commence the tour at the end of June, details of which we hope shortly to announce. The district selected for this year's operations is that part of South Berks lying between Reading and Hungerford, in which it is proposed to spend a month lecturing from village to village, during which it is hoped that the whole of the district will be covered. The van is built on the lines of the political vans now so much in use, and

will provide sleeping and living accommodation for the lecturer and his attendant. The plan of operations will be to put the van up on the village green or some other suitable place in the morning, and during the day to visit the bee-keepers in the neighbourhood, and offer them practical assistance and advice. In the afternoon, where it can be arranged, a lecture will be given in some neighbouring apiary, illustrated by practical demonstrations with living bees, and in the evening at dusk another lecture from the van, illustrated with lantern views. These lectures are intended to be as simple as possible, and, it is hoped, will do much to promote profitable bee-keeping among the cottager classes, and to remove some of the superstition still hanging round the beehive. To make this effort on the part of the County Council and the Bee-keepers' Association as successful as it deserves, it is necessary to secure the co-operation of friends living in the above-mentioned district, and we are requested to say that the Hon. Secretary of the Berks Bee-keepers' Association will be glad to hear from any one willing to help in the work of bringing technical education in bee-keeping to the homes of the people, and any communication addressed to him at the office of the Association, 17 Market Place, Reading, will receive prompt attention.—*Reading Observer.*

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The Assistant Secretary of the above Association, Mr. John Wishart, 5 Market Place, Melrose, requests us to ask that, in order to prevent delay, all correspondence relating to the Association or to coming shows may be addressed to him direct, and not to the Hon. Secretary, Sir T. D. Gibson-Carmichael, or any other of the office-bearers.

AFTER-SWARMS—WHEN TO CUT OUT QUEEN-CELLS.

Probably there is nothing so perplexing to the apiarist, nor, in fact, to the novice or the farmer, with his few hives of bees, as after-swarms. They are rarely wanted by any one, but are ever present to annoy, unless they are prevented from issuing by the apiarist. With fox hives, and the knowledge of thirty years ago, very few could do little else than let them issue at will. They were often returned, only to issue the next day, and often again on the same day. The cry of "Bees swarming!" about as soon as we were in the hayfield, on some hot July morning during the fifties, and "bees swarming" all through the day, decided my father to let this branch of agriculture alone; and as four-fifths of these swarms were after-swarms, not being wanted, they were the ones which gave the verdict, or caused it to be given. But since the frame hives came into general use, this after-swarming nuisance can be prevented; but in order to do this we must know the conditions causing them to issue, and when they are to be expected. On page 258 of *Gleanings* for April 1st, I find these words over the name of Henry Alley: "A queen usually hatches on the eighth day after the first swarm issues, and it is on that day that the second swarm will come off."

Now, friend Alley is one of our oldest bee-keepers, having had years of experience with bees before many of us were born: yet he made a mistake here, or else the types did not make him say what he intended. After years of study on this point, and the most careful watching, I find that, where the colony casting swarms is in a normal condition, the egg intended for a queen is deposited in the embryo queen-cell from three to three and one-half days before it hatches into a larva. This larva is in the larval form from five and one-half to six days, at which time the cell containing it is sealed. After the cell is sealed it is in the chrysalis form seven days, making a period of about sixteen days from the time the egg was deposited in the cell to the time the queen hatches. When the queen first emerges from the cell she is a white, weak thing, unless kept in her cell after maturity by the workers, as all who have handled queens well know, and is no more fit for leading out a swarm than she is for egg-laying; but during the next forty-eight hours she gains strength rapidly, so that, when she is about thirty to thirty-six hours old, she begins to "pipe," or "peep," as it is termed; and when she is from forty-eight to sixty hours old she is ready to lead out a swarm, where there are rival queens in other queen-cells. From the above it will be seen that the second swarm does *not* come on the day the young queen hatches, but about two days afterward. This, I believe, is according to Quinby in his *Mysteries of Bee-keeping Explained*, which I have always found to be very nearly correct on all topics on which it treats. If any one objects to my using the term "leads out a swarm," just tell him that, with the first (or prime) swarm, having the old queen, the bees seem to be the leaders in the swarming movement; but with all after-swarms the case is different, for with these we find the young queen the first, or among the first, to leave the hive. When a colony is in a normal condition, or when an apiary is not affected with the swarming mania, the first swarm issues upon the sealing of the first queen-cell, unless kept back by unfavourable weather or circumstances. By issuing upon the sealing of the first queen-cell, I mean this: If the cell is sealed at some time during the hours of 8 to 12 a.m., the swarm is likely to issue from 12 m. to 3 p.m. of the same day; but if sealed from 2 p.m. to 8 a.m., then the swarm will issue during the forenoon, so that, in this latter case, which is the usual one, the cell may be sealed anywhere from one to eighteen hours before the swarm issues.

I have been particular in this matter, so that we could know just when to cut off the queen-

cells to prevent these after-swarms. If we cut off all the cells but one on the fifth or sixth day after the issuing of the swarm, as has been recommended many times, we are not sure that the cell left will hatch; and, furthermore, the bees still have larvæ young enough to convert into queens, which they are almost sure to do, and in this case they will often kill the queen which hatches first, instead of allowing her to destroy these later-started cells, when we not only have as many after-swarms as we should have had, had we not cut the cells; but we have also the disadvantage of having queens reared from old larvæ, which, all concede, gives inferior queens. Now, if we wait about this cutting of cells till the eighth day, we shall run no risk of the colony swarming; where the first swarm was not kept back by foul weather, there will be no larvæ young enough to convert into queens, and, as a rule, the first young queen will be hatched, when we can make a sure thing of the matter, if we are sure we cut off all the queen-cells in the hive. For these reasons I now wait till the morning of the eighth day after a first swarm has issued, when I open the hive, take out the first frame, and hastily glance over it for nearly ripe queen-cells; and if none are found I shake most of the bees off near the entrance of the hive, into which they will immediately run, when the frame is closely inspected for queen-cells, peering into every nook and corner for them; for, should some small or crooked one be missed, swarming would surely result. All cells found are cut off after a frame has been shaken to rid it of bees, for this shaking of the young queens in their cells is almost sure to kill them or cause deformity. The next frame is treated the same, unless ripe cells are found, in which case it is set outside the hive, awaiting the finding of a cell from which a queen has hatched, when all are cut off; but should none have hatched, then the best one of these ripe cells is saved and put back into the hive. In this way we can make sure that no swarm will issue, after the first, from this hive, and it is the only certain plan I know of.—G. M. Doolittle *in "Gleanings."*

Bee Shows to Come.

June 7th, 8th, 9th, 10th.—Hants and Isle of Wight B. K. A., in connexion with Royal Counties Agricultural Society, at Southampton. For schedules apply to E. H. Bellairs, Wingfield, Christchurch.

June 14th and 15th.—Essex B.K.A. County Show at Romford, in connexion with the Essex Agricultural Society's Show. F. H. Meggy, Hon. Secretary, Chelmsford.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 19th to 21st.—Lincolnshire Agriculture Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Benjamin E. Jones (Freckleton).—*Papers on Foul Brood.*—The papers referred to appear in *Bee Journal* for March 2nd, 16th, 23rd, and 30th, and April 6th. The five numbers will be sent post free for 7*d.* in stamps.

A. P. J. (Norfolk).—*Bees killing Drones in May.*—1. Though not usual, the practice has been pretty frequent this year. 2. It indicates that swarming is given up just for the time being, nothing further.

W. B. W. (Hillmarton).—*Suspected Foul Brood in Skep.*—There is no foul brood in comb. The skep has evidently been robbed in the autumn, very probably owing to the "large plate of feed" put underneath on the floor-board, and the bees have since died of starvation. The piercing of the cappings would occur while the robbing was in progress.

Alex. Strathdee (Ballindalloch).—Insect sent is a fly, order *Diptera*, not a bee at all.

Wm. A. Jack (Glasgow).—The Sheppard self-hiver has been, we believe, very successful in use.

J. B. Heale (Crediton).—Probably the most popular book published in this country is Cowan's *Guide-book.*

H. J.—*Painting inside of Hives.*—There is no objection to this if time is allowed for the paint to harden, and the smell to pass away before using.

Caleb J. Davis (Pilton).—The bee tent will be at the Gloucester Show, but no honey or appliances.

F. F (Clapham).—Bee sent is a queen, and from a perusal of the "history of the stock" sent along with it, we should say the queen has met with some injury while manipulating. She has lost half of one leg, and has signs of injury to the abdomen, and this would cause her to creep out of the hive to die.

Geo. H. Strong (Twickenham).—Bees sent are the ordinary worker-bee of the common native variety. Probably they are "robber-bees" from some other hive.

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PLANTS.—Limnanthes Douglasii, 100 1s. 3d; Iceland Poppies, 25 1s. 3d.; Seeds, 6d. per packet. Address HUNTING, Loddon, Norfolk. A 59

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FOR SALE.—Three-storied Cowan Hive. Combs filled Wax. Price 30s. Address Miss SACKVILLE, Drayton, Thrapston. A 64

FOR SALE.—Fifty 1-lb. Sections New Honey. Apply J. ROGERS, Petham Court, Swanley, Kent. What offers? A 65

FOR SALE.—Swarms at 3s. per lb. Box free. Address LEMIN, 72 Hoe Street, Walthamstow. A 66

FOR SALE.—Fertile Queens, 3s. 6d.; also Swarms of my Splendid Strain, 15s., packed free. Address JOHN WALTON, Honey Cott, Weston, Leamington. A 67

FOR SALE.—Two Nine-frame Strong Stocks of Ligurians; healthiness guaranteed; Queens young. £1 12s. 6d. each. Address BURTON, Devonshire Villa, Chiswick. A 69

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 572. Vol. XXI. N.S. 180.] JUNE 8, 1893 [*Published Weekly.*

Editorial, Notices, &c.

JOHN HUCKLE TESTIMONIAL FUND.

There has been for some time a feeling amongst the residents of King's Langley and neighbourhood, as well as amongst bee-keepers, that some recognition of his labours was due to one who has for so many years shown himself ready to help in every useful work, disinterested in motive, diligent in execution, sound in judgment, and so full of tact and good temper as Mr. John Huckle.

For the last fifteen years Mr. Huckle has been known to bee-keepers, first as assistant secretary to Mr. Peel, and then as secretary of the B.B.K.A. During the whole of that time he has faithfully and ably carried out his duties, and all those who have had occasion to come in contact with him will understand the debt of gratitude that bee-keepers owe him.

It will be known that for more than twelve months he has been seriously ill, and that, although better now, he will be unable to resume his various duties, all of which, except the secretaryship of the B.B.K.A., he has been obliged to give up His illness at Bournemouth has been a heavy tax upon his resources, and we think now is a fitting time to offer that mark of esteem which he so well deserves. We are quite sure that it is only necessary to mention, to get a hearty response, that it is proposed to raise a Testimonial Fund; and we trust that all who know his worth and sympathise with him, will show their sympathy in a practical manner by giving liberally according to their means.

The following gentlemen form the Bee-keepers' Committee, viz., Hon. and Rev. H. Bligh, Messrs. T. W. Cowan, W. Broughton Carr, Jesse Garratt, and J. M. Hooker, who will co-operate with the local committee formed at Kings Langley.

Subscriptions are limited to three guineas, but smaller sums will be gratefully received. Remittances should be sent to *British Bee Journal* Office, 17 King William Street, Strand, London, W.C., and all cheques and postal orders made payable to Mr. T. W. Cowan (Huckle Testimonial Fund), and crossed London and Westminster Bank.

All donations will be acknowledged in the *British Bee Journal.*

THE BRITISH BEE-KEEPERS' ASSOCIATION AND BEE-KEEPING FOR COTTAGERS.

The letter written by the Baroness Burdett-Coutts as President of the B. B. K. A., to which reference was made on p. 202 of *B. J.* for May 25th, has now appeared in the *Standard* and other leading London papers, besides being copied into several of the more important provincial ones. We also here reprint the letter referred to, in order that readers may see, and, we trust, appreciate, its general tenour. It reads as follows:—

To the Editor of the "Standard."

SIR,—I beg permission to call attention in the *Standard* to the humble but profitable industry of bee-keeping and bee-culture, in which our rural population might very advantageously engage to a much larger extent than they do at present.

The British Bee-keepers' Association, of which I am President, was formed many years ago, to promote the more intelligent management of the honey-bee, and to call the attention of the peasantry to the fact that for a small amount of care and attention this industrious little creature would perhaps pay their rent, and often give an even greater direct return for the small amount of thought and trouble bestowed upon it, in addition to the indirect boon it confers by assisting the process of fertilisation, and so materially increasing the crop of fruits, especially of raspberries, currants, and bush fruits generally.

I must say at once that the efforts of the

Association have met with very considerable success. It has established affiliated Associations all over the country, has formulated a general plan of instruction in apiculture, has sent out expert demonstrators and lecturers, issued a large amount of useful literature, and facilitated the sale of honey produce. The Association has also held examinations, and, by its efforts, bee-keeping has been officially recognised as a subject of technical education, which may be taught in schools, and towards which the County Councils in many districts are now making grants of money.

But there are still large areas where bee-keeping is not pursued, and a great source of wealth to the cottagers is thereby ignored and lost. There are sixty-one County Councils in England and Wales having Technical Instruction Committees; but there are in the counties only twenty-six affiliated branches of this Association.

Among our objects, we are striving to ensure that, wherever there is a Technical Instruction Committee, there also shall there be a County or District Bee-keepers' Association, and we have also set before ourselves an ideal, perfectly attainable, of raising a ton of honey and a 1*l.* subscription in every country parish. That ideal, however, cannot be immediately attained, and the need for funds to continue and to carry into new fields this most useful and unpretentious little work is most urgent. I appeal especially for help to all those living amid rural surroundings, and ask them to send some small subscription to the Association, at 17 King William Street, Strand. At the same time, I would also point out to them how, by arousing the enterprise and wisely directing the efforts of their poorer neighbours, they may perform a most useful service, in which the Association will most gladly give them any assistance in its power.—I am, sir, your obedient servant,

BURDETT-COUTTS.

Stratton Street, May 19th.

It will be observed that the President directs attention first to the important work done by the Association in the past—work, let it be said, which stands on record, and cannot therefore be gainsaid; second, to the not less important labour on which it is at present engaged; and, third, to the "ideal" the B. B. K. A. sets before itself as possible of accomplishment in the near future, should the means be forthcoming.

On this last point it may be taken for granted that a sufficient time has now elapsed since the "appeal" first appeared to warrant the assumption of its having accomplished all that need be looked for, so far as assisting the main object for which it was written. In view of this fact, and with such information as is available before us, we regret to learn that the anticipated financial help has not been vouchsafed to us. Many letters on the subject have been received at this office from persons whose interest has been aroused by reading the appeal, and who are, in consequence, anxious to give bee-keeping a trial. Unfortunately, however, a large majority, while expressing willingness to accept the assistance *offered* in the final words of the President, do so entirely in the sense of receiving personal assistance in beginning with bees, and overlook the help *asked for* a few lines higher up in the same paragraph. This is not assisting the Association; it is adding to its burdens—a fact worth consideration by the writers of the letters before us.

With so much that could be done, and the time so obviously ripe for doing it, a generous response to the President's appeal would have been especially welcome just now; but, we are sorry to say, the result has not justified our hopes. Not that any serious cause for discouragement exists, though there is reason to fear that too much importance has been attached to the grants voted by County Councils in aid of technical instruction in bee-keeping, and an idea prevails that, by reason of these grants, the need for private benefaction no longer exists This, however, is not only to be regretted, but it is also a great mistake; the funds thus voted are not available for the *general* purposes of County Associations receiving them, but should rather be regarded as involving an increased expenditure in various directions because of the additional work compelled to be undertaken.

But more than all should it be borne in mind that the British Bee-keepers' Association—on behalf of which its President makes an appeal—while devoting its energies and its funds to guiding and helping its affiliated Associations, receives neither Government aid nor County Council grant, its work being carried on solely by means of the subscriptions of members, supplemented by such outside help as it is sought to enlist by the appeal referred to.

We must not conclude without referring to the only replies to the President's appeal—two in number—which have appeared in print so far as we know. The first is from the *Standard*, and reads thus:—

To the Editor of the "Standard."

SIR,—I live in a rural parish in the south of England, and am much interested in bee-culture. My neigbours keep a great number of bees, and a large amount of honey is produced every year in the parish. Our County Council has helped us considerably by giving us most useful and practical instruction in apiculture, while the bee-keepers of this and several neighbouring villages have formed themselves into a District Bee-keepers' Association.

So far so good. But here comes the difficulty, we cannot find a market for our honey. If Lady Burdett-Coutts can help us in this direction, and tell us who will buy our honey at a fair and remunerative price, the President of the British Bee-keepers' Association will indeed have done us an excellent and kindly service.

Until we can find a market, it is obviously of little use to tell us that, with "a small amount of care and attention, this little creature will pay the rent, and often give an even greater

return for the small amount of thought and trouble bestowed upon it." We produce lots of honey, and more cottagers would gladly keep bees if we could only sell our goods.—I am, sir, your obedient servant,

VICE-PRESIDENT OF A DISTRICT BEE-KEEPERS' ASSOCIATION.

May 24th.

The other is from a gentleman well known as, some few years ago, taking an active part in Association work, and is as follows:—

To the Editor of the "Daily Chronicle."

SIR,—As one who for years has worked hard to promote bee-keeping, I read Lady Burdett-Coutts' letter on this subject in to-day's *Chronicle* with interest.

As to the pleasures and profits of bee-keeping there can be no question; but, as to the measure of praise due to the British Bee-keepers' Association, some of us entertain some amount of doubt, although none of us are lax in our respect for the lady whom we loyally regard as our own "Queen Bee."

If the group of dear, slow-going gentlemen which rules the Association can be induced to strike out for a bold policy, and, if they cannot reform themselves, will refrain from doubtful tactics when outsiders attempt to reform them, the Association may yet regain the vigour and health enjoyed during the season it was so energetically worked by the late Rev. H. R. Peel. Some of us tried reform for three annual meetings in succession, until out of sheer decency to Lady Burdett-Coutts we were compelled to retire, with the result of dwindling numbers and dwindling subscriptions to the Association.

Bee-keepers are increasing, and I trust will continue to do so; and this appeal being now made, I venture to hope with it also will be made some effort to make the Association worthy of the object for which it professes to work, an object dear to many of us—the betterment of our rural population.—I am, yours faithfully,

JOHN P. SAMBELS.

Cole Green, Hertford, May 23rd.

By way of reply to the first of the above, we need but to inform "Vice-President" that well-managed County Associations make a special point of assisting members to find a market for their honey, and generally succeed in doing so. Why the Association of which he is Vice-President fails it is not for us to say, but a little definite information regarding his particular Association might possibly throw some light on the subject, and perhaps account for its failure.

The views expressed by Mr. Sambels would, we think, have been more to the point if he had in fairness taken note of the work detailed by the President as done by the Association, instead of ventilating some supposed grievance and giving utterance to the *animus* he evidently bears against some "dear, slow-going gentlemen" who, according to him, ruled the B. B. K. A. in years gone by. By so doing, and by devoting a little of the "hard work in promoting bee-keeping"—still we hope left in him—to the task of resuscitating his own once powerful County Association, he would render real service to the object dear to him—the betterment of our rural population.

MIDDLESEX BEE-KEEPERS' ASSOCIATION.

A Committee Meeting of the M. B. K. A. was held on Thursday last, June 1st, in the board-room of the R. S. P. C. A., 105 Jermyn Street, kindly lent for the occasion, at which the following resolution was unanimously passed:—

"The Committee of the Middlesex Bee-keepers' Association, at this their first meeting since the resignation of the secretaryship by the Hon. and Rev. Henry Bligh, desire to record their sense of the great services rendered to the Association by their late Secretary, and beg to offer him their sincerest thanks for his constant efforts, extending over the past nine years, to promote the success of the Association. They would further express the hope that Mr. Bligh may have a most useful and happy life in his new sphere of work, whither the best wishes of his former colleagues will accompany him."

Mr. Bligh is about to leave Middlesex, having accepted the living of Holy Trinity, Fareham, Hampshire.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "THE MANAGER, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

ASSISTING COTTAGERS TO SELL THEIR HONEY.

[1455.] I had hoped to have seen in this week's *B. J.* some mention of the correspondence now going on about bee-keeping, which has been started through the appearance in the *Standard* and *Chronicle* (amongst other daily papers) of a letter on the subject from the Baroness Burdett-Coutts.

With reference to "Vice-President's" inquiry about the sale of honey, it is the same with this as all other products, cottagers can get the largest returns by selling direct to consumers.

The question arises, do the larger returns pay for the time spent in going to consumers? If middlemen are employed, the price falls very materially, for not only is there the middleman's expenses and profit, but consumers are more exacting about the attractiveness of the way the honey is put up (which means cost) than when it is sold direct by the producer to the consumer. To my mind milkmen are the best distributors of honey, the very nature of their calling fitting them for it.

Then there is another opening, and the cottagers have this one very much in their own hands, viz., to get the wholesale Co-operative Societies to take up the sale of English honey. It could be sent to them in bulk, and they have every opportunity of putting it on to the sale-counters in attractive form.

As one of the "dear, slow-going gentlemen" named in Mr. Sambel's letter, I would only say I feel sure that constant energetic work in Bee-keeping Associations will be rewarded, as in all other positions, according to the tact and ability displayed.—WM. LEES MCCLURE, *The Lathams, Prescot, June 1st.*

[The subject is referred to on p. 221.—EDS.]

NOTES BY THE WAY.

[1456.] We have had a fortnight of fair weather. The rain we had then is quite dried up again, and vegetation flags by reason of the drought. Bees have, however, made progress, and a few swarms have issued. This is the chief source of income for the cottager, who still continues on in the old style of bee-keeping adopted by the ancients, for without increasing the number of his stocks he cannot secure his harvest honey at taking-up time. Few of the old school think of "supering," or when they do so it is so late in the season (generally after the principal honey-flow is over) that, their straw caps having little stored in them, they give the matter up as not worth their attention, or possibly wait the convenience of a friend who is a little bolder in doing bee-work, and through not taking the tide at the flow their little venture is lost for the year by their procrastination. I must somewhat excuse them this season on account of the indicative mood of the bees. Everything about the apiary has pointed to swarms—early swarms—yet the few hives have consummated the hope of the bee-keeper, and the many have disappointed them; thus it has been a daily task of "hope deferred" to watch for swarms. The cold nights of the past week have raised his hopes again, as he argued "that, as the cold drove the bees in at nights," they were more likely to swarm next day than when the nights were warm, and they could remain ensconced under the straw hackle or old bags that form the covers in a majority of cases.

If these hives had been supered in good time the owners would have had them filled, or nearly so, with the first honey-flow. There is plenty of work for experts and bee-vans for many years to come if only the funds are forthcoming to carry on the work. When one of our experts calls—I say *one* because we have three or four in connexion with our Berks Association, with a possible increase of the number, for your humble servant (the writer) has received more than one invitation to swell the ranks, but modesty for one reason and excess of work already act as restraining forces at present. Then there is another reason, and not the least one—I have no parchment, no degree! Now, as I said, when one of our experts calls, depend on it we talk bees! their ways and work. I ask after their (the bees') welfare, &c., and Mr. Flood told me of a case of foul brood breaking out in a village some few miles from here, and of the application of naphthaline in the hives, and of its disappearance under the influence of the fumes. This is satisfactory, and if it is a radical cure I contend that a continuous application of any agent that sterilises the germs must of necessity *cure in the long run*, as the number of spores, even if they are many, must be limited, and unless the medium is present for their increase—and I take it they (the spores) are the production or seed of the germs, and that if the parents are rendered sterile and die there is no propagation of the species—the creatures become extinct.

This raises another thought of the crass ignorance in dealing with infectious germs, such as the *Bacilli alvei*, which we see from time to time advocated by correspondents even in the columns of the *B. J.*, *pace* the open feeding of medicated syrup so that our neighbours' bees may get a dose of the physic. Why, the fact of causing bees to congregate to collect the syrup is one of the most sure methods of propagating the disease to the whole neighbourhood! What should we think of the man who made a feast, and made it common to all, and to which the person who was suffering from, say, smallpox, scarlet fever, or any other infectious disease, was specially invited to mingle with the other guests because, forsooth, a little of the food would do him good—perhaps cure him? That man would be anathematised as a pest to the district, or be regarded by the most charitably disposed as a fit subject for an asylum. Yet we bee-keepers have even advocated such plans to induce our bees to take this medicine. One of our scientists thinks it possible for a bee to carry and leave the infecting spores or germs on the anthers of the flowers it visits, and another bee alighting on that flower carrying the infection to its home. I myself have no doubt that the chief source of infection and propagation of foul brood is caused by the carelessness of bee-keepers leaving hives in which bees have died, or dwindled to such a weak, defenceless state that stronger colonies have robbed them, and then the robbers have carried the disease to whatever hive they came from. I notice Mr. W. McEvoy is writing on the real cause of foul brood among bees. I hope our editors will give him space to

reproduce the article. Mr. McEvoy is foul-brood inspector for the Province of Ontario, Canada, so that he is not writing upon a subject he has not grappled with.

My "Wells" hive of two weak colonies is not a success at present. The super has been on since the 28th ult., and no work started yet, although the colonies, five and six frames respectively (entrances at each end), are crowded with bees; in fact one colony has started comb-building between the dummy and end of hive in preference to working in a (common) super. Theory first, practice after—one often upsets the other. There are many subjects I wished to touch on, but space forbids.—W. WOODLEY, *World's End, Newbury, Berks.*

QUEENLESS HIVES RE-QUEENING THEMSELVES.

[1457.] I read, with very great interest, the letter of Mr. Harris (1442, p. 206), referring to the re-queening of a queenless hive, and I feel sure the enclosed report from a local paper will explain it. No doubt the hive in question was re-queened in the same way. Now, these bees swarmed on May 13th, and on the 27th, at 10.45 a.m., a good second swarm came off, which was safely hived and united to a weak stock in a bar-frame hive. Now, very strange, about four o'clock on the following day (Sunday) my wife thought this same skep was again swarming, but the bees went back and settled quietly down again; but, on going out this morning (Monday) at 8.15 a.m., I was just in time to see a swarm coming out of the same skep, and I safely hived them. I put them into a frame hive with foundation, and, looking in to-night to feed, I find they cover five frames; so this is a good swarm. Now, Mr. Editor, what means all this? Can any one give a similar experience? It seems so strange. I may say I saw them come out both Saturday and to-day.—HENRY ATTFIELD, *Ascot, May 29th.*

[The cutting referred to gives an account of a somewhat unusual occurrence which happened on Saturday, the 13th ult., when a swarm issued from a skep belonging to our correspondent and, "flying off" for a distance of one and a half miles, entered a skep, already fully occupied with a strong stock belonging to a Mr. Ingram. The run-away swarm was followed, and seen to enter its strangely selected new home; besides being "Ligurians," while the others were "blacks," there could be no uncertainty as to the fact, which Mr. Ingram admitted, and promised a swarm in return, as the bees could not be separated. The curious feature in the case lay in the fact of the run-away swarm entering a hive apparently quite as fully populated as the one they had left, while there was an empty hive ready for a swarm in the very apiary they had fled away from. With reference to our correspondent's query regarding the after-swarming of the same skep, there is nothing unusual in the issue of a third swarm a day or so after a second, especially with Ligurian bees, as these were.—EDS.]

HUMBLE-BEES *VERSUS* HIVE-BEES.

[1458.] Whilst working in the field amongst strawberry-plants now in bloom, and near to two hives of ordinary bees, I have been much interested in their ways of working, but what I noticed particularly was the common black wild humble-bee. Early in the morning I find it at work, and as late as 8.30 p.m. What an industrious fellow the latter is, and what energy he has!—he seems to go over a flower in half the time an ordinary hive-bee takes, and seemingly examines the flower thoroughly. But what I wish to ask is this, To your knowledge has any attempt been made to domesticate it and with what results? Or is it possible to cross with other breeds? If I come across a nest I purpose trying something by way of domesticating it, but thought that quite possibly some of these apiarians have forestalled me. I suppose that they can gather nectar from the red clover flower?—WEST YORKSHIRE.

[Our correspondent may derive a considerable amount of interest and pleasure in the endeavour to domesticate the humble-bee, but the natural habits of the insect destroy all chance of permanent success. A perusal of any work on British bees will clearly prove this. Nor is there any possibility of producing a cross or hybrid between the *Bombus* and *Apis mellifica*, which latter insect is *par excellence* the bee for honey-gathering and for domestication.—EDS.]

THE HONEY BIRD.

[1459.] Being a constant reader of your *Journal*, it has occurred to me that the enclosed paper, written by Sir Theophilus Shepstone, late Administrator of the Transvaal during the English occupation, might be of interest to your many readers. The name of the honourable writer of the paper is a sufficient guarantee of the absolute truthfulness of the statements made.—SYDNEY FORD, *Pietermaritzburg, February 20th*, 1893.

THE HONEY BIRD.

A Christmas Chapter in Natural History.

Probably many, even old colonists, may be ignorant of the existence of a little bird that is held in great respect by natives as well as by others who know and have taken advantage of its remarkable and most useful intelligence.

Residents in our coast districts and along the jungle-clad valleys of our larger rivers will, for the most part, be familiar enough with the "honey bird," and many will perhaps have benefited by the acquaintance.

The object of this paper is to describe the habits of this bird in so far as they affect man, and occasionally procure his co-operation in obtaining a food supply.

I cannot do this better, I think, than by relating my own experience on the occasion of my first introduction to one of these wonderful little creatures.

This happened many years ago on the coast line of the Cape frontier, which much resembles ours, but is less tropical. I had accompanied a small native hunting party. Our hunting ground was broken and covered more or less with jungle, so progress was slow—we were on foot. A hare got up here, a duiker (a small buck or deer) there, and another not far off. The hunters were warming to their work. Excitement grew apace. The slightest sound was scrutinised, and every one was on the alert.

Suddenly the sharp sounds, "Cherr, cherr, cherr, cherr," the well-known call of the honey bird, brought the hunt to a standstill. The presence of the little intruder was saluted by a chorus of insulting recognition, "Oh! is that you? You are untruthful. You deceived some one yesterday. You have got a snake or a wild beast to take us to-day. Go away, we will have nothing to do with you." Such was the greeting that our little would-be benefactor received. It was difficult to think that it did not understand these reproaches, for at every utterance its "Cherr, cherr, cherr, cherr," became more rapid and more emphatic as it fussed about on the twig it had perched upon and looked straight at its revilers. Having done enough, as it thought, either to defend its character or to make plain its invitation, it flew away. Although I heard and saw all this, and was struck by the earnest shrillness of the bird's call, I knew not, until I was told what it meant, or why it commanded such attention. I asked why they abused it, and they said it was a precaution. Several of the hunters were, however, told off to follow the bird, and I went with them. Meanwhile it had disappeared, and its call could no longer be heard; the party told off started in the direction of its flight; they called, but to no purpose, until they had gone some distance, when suddenly it returned and renewed its chirruping. It now seemed to think itself in charge of the party. It would fly on for a hundred yards or more, and continually call to us until we got near, and then fly on again as before. We always responded to its call, for unless we did so it seemed unwilling to proceed. It led us on in this way for more than a mile. When obstacles delayed us, it would return and appear to scold us for our delay. This was becoming wearisome, but at length its call changed somewhat: it seemed to become more coaxing and encouraging in its tone. "It is getting nearer the nest," said one of the hunters; "look out that you may see it point," alluding to the little flutter it always makes to show the spot. In a few minutes it did point; the hunters knew this from the sweet, low chirruping it made before its silent flight to a tree that commanded a view of the spot it had indicated, and there it sat quietly looking at us. In vain did we call to it for further enlightenment, and in vain did we search. We had missed our chance; the bush had interfered with our seeing the actual point. We knew whereabouts it had been, but whether the bees had established themselves in a tree, or in a cleft of the rock, or in a hole in the ground, one could not judge.

Misgivings had taken possession of one or two of our party, who evidently thought that our chances of stumbing upon a store of honey or a snake were pretty evenly balanced. We persevered in our most careful and diligent search, but all to no purpose. It was getting late. I had begun to think it was all a delusion, but I could not help feeling puzzled as well as amazed at the conduct of the bird, which I could see still sitting in the same place quietly looking on. We were on the point of abandoning our search, when one of the men proposed that we should all join in abusing the little creature, and then withdraw and watch. "When it finds that we are going away," said he "it will fly down, and put its beak into the hole and say, "Here it is, you fools!" His plan was adopted; the abuse was vociferous and unmeasured. We withdrew for a hundred yards and partially concealed ourselves. In a few minutes the bird did exactly what the man had said it would do, except that its reproach, if it cast any, was a silent one. It put its beak into a hole in the ground, but finding nothing flew back as before in silence to a tree. The bees had hived in this hole, and thanks to the fuller light shed by our little instructor, the operation of taking the honey was very soon accomplished. When every one had eaten and taken as much as he chose, and the usual address of thanks and apology had been made to the bird, pieces of comb were left for it, and we withdrew. I wished to observe the result, so we stood at a distance for that purpose. The bird was soon at the hole; it wasted no time in eating, but proceeded at once to carry away the pieces of comb, one at a time. It never took two pieces to the same place. It seemed to know the risk of having all its store in one spot.

(*To be continued next week.*)

Echoes from the Hives.

West Glamorgan, May 19th.—Never was rain more needed or more welcome than that which has daily since the 15th visited this part. Bees generally are in a forward state, sections being taken off in Swansea. My own bees are in better form than last year by a month. There is little sign of clover-bloom, yet but this will soon come now after the abundant rain. Everything points to an early and profitable year. People here say, "You can see things growing," so refreshing to nature have been the showers. Anent nuclei, let beginners beware about split-

ting their stocks at this early time of the year; experience has taught me the best time to do, this is after the June honey-flow is over. Sycamore and other tree honey seem to be the chief sources of supply to-day. There are two hundred or more frame hives within a small radius of Swansea.—E. B.

Great Grimsby, June 5th.—As I have not seen any report from North-East Lincolnshire for some time, I venture to send an "Echo." I heard of three swarms very early in May, within a radius of four miles, but in this village no bees have "taken wing," though hives number some thirty or more. Bees seemed nicely forward in April, but after our fruit and hawthorn blooms were over, the extreme drought stopped all supplies. In this part, the one and only harvest is from clover—as yet not a head to be seen; consequently, if more copious rains do not fall, I fear the "takes" in this dry, cold corner will be light. It makes one envious to read of sections and surplus honey being already harvested, when here the bees are only just now looking at the supers, no doubt wondering, like their owners, whether there will be anything to store in them. It is a pity fine weather does harm, but certainly it can be "too fine," even for bees, to say nothing of the farmers, many of whom have not yet been able to sow their spring corn. A thunderstorm, and forty minutes' heavy rain yesterday (June 4th), was an immense boon, but we want many such rains.—Bee-Kay.

WEATHER REPORT.

Westbourne, Sussex.

May, 1893.

Rainfall, ·95 in.	Sunshine, 257·5 hrs.
Heaviest fall, ·32 in. on 17th.	Brightest day, 22nd, 14·35 hrs.
Rain fell on 7 days.	Sunless days, 0.
Below average, 1·38 in.	Above aver., 15·4 hrs.
Max. temp., 73° on 14th.	Mean max., 64.4°.
Min. temp., 37° on 1st.	Mean min., 45·7°.
Min. on grass, 32° on 31st.	Mean temp., 56·3°.
Frosty nights, 0.	Max. barometer, 30·53 on 5th.
	Min. barometer, 29·65 on 18th.

L. B. Birkett.

Queries and Replies.

[795.] *Can Fertile Workers produce any but Drones?*—I enclose some brood and bees from a hive where there was no queen, but a laying worker, there being sometimes three eggs in a cell. I always understood that a fertile worker produced only drones. Will you kindly tell me how this is, as these seem to be worker-bees? We have now put these bees (minus the brood) into another stock hive.—F. Fox, *Epsom.*

Reply.—The young bees sent are ordinary workers, and this fact makes it certain that there is a fertilised queen in the hive. Fertile workers produce nothing but drones.

[796.] *Charlock, Vetches, and Alsike Clover as Honey Plants.*—There are four fields sown with wheat within a few hundred yards of my apiary (fourteen hives, including two Wells), each field completely yellow with charlock; also a large field of vetches, upon which my bees are working very hard. 1. Will honey from this source be of good quality? There is also a large field of clover, a kind of hybrid or bastard—white mixed with red. 2. Can the bees gather from this clover, seeing that the heads are larger than the usual white clover? I am anxious to know the quality of honey from above source, as I have twelve stocks supered, all of them strong, with ten standard frames. I have just opened one super, and find six frames filled with honey. There are other sources from which they will gather, but these are the chief at present.—T. G., *Staffs, June 3rd.*

Reply.—1. Charlock, or wild mustard, yields honey of fair quality, but not first-rate, and the same may be said of vetches. 2. The hybrid clover referred to as mixed with red is alsike, and if cut in course of the next week or so will probably give you a fine yield of honey from the second-crop bloom later on. The honey from alsike is very good in quality. In fact there is little perceptible difference between it and that from white clover.

[797.] *Best Bees for Extracted Honey.*—1. What kind of bees are best for gathering extracted honey, natives, Ligurians, or Carniolans; or would hybrids of either of the above be better than the pure breed? 2. Are hybrids of the Carniolan natives more vicious than pure natives? 3. Why will not perforated zinc do for dummy for "Wells" hive?—Jas. Pargeter, *Leamington.*

Reply.—1. The black, or ordinary bee of the country, is supposed to be better adapted for comb honey than other varieties, which latter are credited by some apiarians with superior qualities in working for extracted honey. It is, however, very much a matter of opinion as to preference. 2. Sometimes these bees are remarkably docile, while at times they are just the opposite. No doubt judicious handling has much to do with the difference. 3. Reference to what has appeared in our pages on the "Wells" system will show that ordinary excluder zinc, if that is what is meant, is quite useless for the purpose intended.

BEE-PARALYSIS—IS IT A DISEASE?

My attention was called to this trouble with bees in the latter part of the summer of 1883.

Since that time I have watched its course and progress, and I am satisfied it is not a disease, but is caused by a vegetable (nectar) poison. I have never seen its effect at any time when bees were gathering nectar from the *staple* honey-plants.

I have seen no signs of the so-called disease at any other time than in the early spring, and in the late summer. At these times bees may gather both nectar and pollen of such doubtful wholesomeness that they would not touch it when the locust, white clover, and linden are supplying their wants. The simple fact that the trouble occurs only at such periods of the season, makes it look very suspicious that vegetable poison is at the bottom of the trouble. Nectar in flowers, secreted in hot, dry weather, is more than usually concentrated and strong, by reason of rapid evaporation, and when poisonous weeds tempt the bees at such times, it is not at all strange that they may find "death in the pot." It is no uncommon thing to find bees in a state of *stupor* on certain wild flowers —no doubt the result of nectar poison.

If I am correct in my views, the practical way to deal with the trouble is to feed with sweetened water, as much as the affected colony will take. This will allure the bees from the source of danger, and help to dilute the unwholesome nectar, and make it less dangerous to the bees.

I have spent considerable time among wild flowers and the working bees in the early spring and late summer and fall, and I have found no inconsiderable number of bees on the wild flowers in a state of stupor, as if under the influence of an opiate. I have often picked up the opium-affected bees, placed them on my hand, and observed the well-described paralytic symptoms. Nothing of this sort has ever attracted my attention when bees were at work on the clovers and other standard flowers.

I once thought that the time of year had something to do with the manner in which bees fall, like leaden bullets, in front of the hives in spring, late summer, and fall, both in warm as well as in cool weather; but I do not think so now. Since I have never seen anything like it when the bees were working under the greatest strain, in warm as well as in cool weather, in a time of a rapid flow in white clover harvest, I think it most probable that soporiferous nectar being handled by them causes them to tumble so clumsily.—G. W. DEMAREE, *in "American Bee Journal."*

BEE-MANAGEMENT IN SUMMER.

May should be a very happy month for the bees, for, though there are frequent exceptions, yet, generally, warm, bright days have become the rule, and such days, with the abounding bloom of willows, dandelions, sugar-maples, and all manner of fruit-trees, invite the bees to an almost continual, although uncloying, feast; and to the bee-keeper, too, if his bees have survived the winter in a condition of vigorous health, this should be a time of cheer; for, though it is not a season of harvest, it is a seed-time that, if duly observed, gives promise of abundant harvest in due course.

This is the seed-time, because everything depends on what is accomplished during this month. Honey and other food supplies are the seed, and it is not every planting that produces as abundantly; not, indeed, directly in kind, but in bees which must be depended on to gather in kind a little later. Much may be gathered now, but large quantities are needed, and if everything should not prove auspicious, the amount gathered may come far short of what is required. Judicious management and abundant stores now may easily *double* the future crop, and care and food these days tell more decidedly on the profits of the year than the efforts of any other period; so the apiarist must now, if at no other time, be on the alert to detect the necessities of the apiary and prompt to supply them.

Each colony should be as snug as possible and possessed of a good working queen and an abundance—what would generally be called a superabundance—of stores. No colony will do well on the hand-to-mouth method. It is not easy to account for all the good effects of a superabundance of stores. In taking my bees from the cellar in April, I was struck with the fact that these colonies having last fall from forty to fifty pounds of stores seemed to be twice as strong in bees as those having but twenty-five pounds, and this condition as a rule will continue. Does it produce a sort of contentment that preserves vigour and longevity? I think so; and the solid walls of honey it may be are just the kind of protection the bees need, and perhaps also when there is so much honey there is not sufficient empty comb for the bees to cluster on, and so they are actually *compelled* to keep warm the honey for their daily use, so that they partake of it without hesitation when needed, while those having plenty of empty combs cluster there and have only the cold honey outside the cluster to go to for food, and so actually suffer and maybe starve from reluctance to go outside the cluster. However this may be, it is unquestionably profitable to supply food without stint, not for winter only, but more especially during the six weeks prior to the appearance of white clover. A fear of want on the part of the bees is about as disastrous as an actual want. If one's time is valuable, the amount necessary for this work may be reduced within very small limits, and if one has time to spare, he may, I believe, profitably try stimulative feeding during any periods from the first of May to white clover when honey is not being gathered. Keep all colonies prosperous and get them strong as soon as possible.

(*To be continued.*)

Bee Shows to Come.

June 7th, 8th, 9th, 10th.—Hants and Isle of Wight B. K. A., in connexion with Royal Counties Agricultural Society, at Southampton. For schedules apply to E. H. Bellairs, Wingfield, Christchurch.

June 14th and 15th.—Essex B.K.A. County Show at Romford, in connexion with the Essex Agricultural Society's Show. F. H. Meggy, Hon. Secretary, Chelmsford.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 19th to 21st.—Lincolnshire Agricultural Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

July (date not yet fixed).—Berks B. K. A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

August 1st and 2nd.—Staffordshire B.K A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Anxious.—*Foul Brood.*—Comb is affected with foul brood, and your proposed plan of procedure is about the best to follow. It would be advisable, however, to run the bees into a makeshift box when shaking them from the combs, instead of into the clean hive, and keep them there for twenty-four hours before putting them back on sheets of foundation. Do not use any of the present combs in the new hive. We should prefer using the honey for household purposes rather than giving it to the bees after boiling.

Chas. Harvey (Stoke Prior).—The young bee sent is not a queen at all—only a worker—whether Carniolan or black it is impossible to tell, from the bruised and soiled condition in which it was received.

E. W. Walford (Bletchingley).—*Allowing Bees to Transfer themselves from Skeps to Frame Hives.*—1. It was a mistake to give only strips of foundation in frame hive below. Under such conditions full sheets are indispensable. Your peculiar arrangement of the brood will allow of examining some of the combs in frame hive, so you might remove such unfinished combs with drone cells as are free from brood and substitute foundation, otherwise the mischief must be remedied in autumn. 2. The skep may be removed just as an ordinary super whenever it is ready and free from brood. 3. When you write of "adding a crate of sections" which makes up a pile consisting of (1) a frame hive, (2) a straw skep, (3) a straw super on this, and (4) a crate of sections above all! and ask, "Is this right?" it makes one tremble for the safety of the "lot," and hesitate before replying. However, we cannot say your plan is "wrong," if you can ensure immunity from a tumble-down of the whole.

J. E. Llenengan.—The bloom sent yields nectar, but not in quantity sufficient to make it an important honey-plant.

H. S (Dorchester)—*Bees not entering Sections.*—There is no accounting at times for bees refusing to work in sections. All the bee-keeper can do is to see that the section racks are made as snug and warm as possible. The rest depends much on the amount of honey to be had outside. The bee-bread cast out may have resulted simply from an excess in gathering and nowhere to store it, if, as stated, the frames were full and sealed over.

A. U. (Cappoquin.)—*Very old* combs are hardly worth melting down for wax; the cells contain so little besides the larval "skins" of successive generations of bees.

*** Some letters, queries, &c., remain for reply next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence: for every additional Three words or under, One Penny.

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BRERETON, Pulborough, Sussex. f. n.

PLANTS.—Limnanthes Douglasii, 100 1s. 3d; Iceland Poppies, 25 1s. 3d.; Seeds, 6d. per packet. Address HUNTING, Loddon, Norfolk. A 59

TWO STOCKS BEES in COWAN Hives, 25s. each. Quantity of Frames, &c., any offer for these? Foul brood unknown. Compelled to relinquish bee-keeping. Manipulating House, 2l.; cost 6l. Address GILBERT, Irlam's Heights, Manchester. A 60

WANTED.—Good 1 lb. Sections of '93 Honey, for Cash, in Glazed Boxes—either Tin or Cardboard. Address N., *Bee Journal* Office, 17 King William Street, W.C. A 63

FOR SALE.—Three-storied Cowan Hive. Combs filled Wax. Price 30s. Address Miss SACKVILLE, Drayton, Thrapston. A 64

FOR SALE.—Swarms at 3s. per lb. Box free. Address LEMIN, 72 Hoe Street, Walthamstow. A 66

FOR SALE.—Fertile Queens, 3s. 6d.; also Swarms of my Splendid Strain, 15s., packed free. Address JOHN WALTON, Honey Cott, Weston, Leamington. A 67

FOR SALE.—Strong healthy Swarms, price 12s. each; box included. Immediate delivery. Address A. W. HOLDER, Wimborne, Dorset A 70

GUARANTEED Healthy Natural Swarms, Pure Natives, 4 lbs. weight, price 12s. 6d. each, packing included. Immediate delivery. Address CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. A 71

IVY-LEAF Geraniums, Marguerite Carnations, Single Dahlias, Paris Daisies, 12, 1s. 6d. Rœmir's Superb Mimulus, Nicotiana Affinis, Petunias, Ten-week Stocks, Pansies, Salvias, Ageratums, Dianthus Heddiwigi, Perillas, Zinnias, 24, 1s. 6d.; 50, 2s. 6d. Iceland Poppies, 24, 1s. 3d.; 50, 2s. Open-air and Mammoth Tomatoes, 24, 1s. 6d. Address VICAR, Egginton, Leighton Buzzard. A 72

WANTED.—Honey Sections, Extracted Honey, and Wax. Address ARNCLIFFE, Hampton Hill, Middlesex. A 73

FOR SALE.—Extractor, "Blow's" No. 17A, cost 30s., only used once—in good order—price 17s. 6d. Apply, Major HEATHCOTE, Broomy Lodge, New Forest, Ringwood. A 74

FOR SALE.—Eight Strong, Healthy Stocks of Bees in Frame Hives, all having Crates of Sections on. Address W. NORFOLK, Woodham Ferris, Chelmsford. A 75

MAY SWARMS, 15s. and 12s. 6d. each. June Swarms, 10s. 6d. Address Dr. JOHNS, 22 Chapeltown Road, Leeds. A 76

STRONG STOCK in Double-walled Hive. Young Queen. Also Sections, Smoker, Gloves. Fair offer accepted. Address SCHOOLMASTER, Thrumpton, Derby. A 77

BEES.—Offers Wanted in Swarms and Cash for my Front-steering Tricycle. Cost £20. Address J. T. GREGLEY, Hathersage, Sheffield. A 78

FOR SALE.—Strong Healthy Stocks in Bar-frame Hives, with 21 lb. Section Crate, nearly full. Offers wanted. Address KAY, Park Cottage, Wilmington, Kent. A 79

HONEYCOMB in Sections Wanted.—Best quality and pale colour. Address T. SMITH & Co., Cambridge Street, Hyde Park. A 81

BEST Slinger Honey Extractor, to take one Standard Frame, cost 15s., sell 7s. Also Slinger for use with Straw Skeps, 5s. 6d. Both in good working order; unused. Address W. HINSON, Parkgate Road, Reigate, Surrey. A 80

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung, Robbing, and Bees entering Cones, &c. Price 1s. per bottle, in handsome, coloured Postal Boxes. Samples of Bee-Smoke Cartridges, 3d. Address T. HOLLIDAY, Astbury, Congleton. 131

"YE OLDE ENGLISHE BEE."

PURE, Prime Swarms of my Selected Strain of English Bees, all 1892 Queens, Packing-box, and put on Rail free, price 15s. Address W. WOODLEY, World's End, Newbury. 104

(Telegrams—"Ilsley, or Hampstead Norris." Porterage 1/6.

QUEEN-REARING for Amateurs, together with Notes on Queen Introduction, Uniting Bees, &c. 6½d. Post free Address S. SIMMINS, Seaford, Sussex.

SWARMS! SWARMS! SWARMS!

12th Season.

3 lb. Swarms, **10/6**; larger at same rate. Boxes 1/6, unless returned.

C. N. WHITE, "Ivo" Apiary, Somersham, Hunts. 113

BURTT, GLOUCESTER

ILLUSTRATED CATALOGUE

POST FREE.

BEE-HIVE MANUFACTURER

108

STEAM FACTORY for Bee Appliances.

ORDERS addressed J. ROSS, Stranraer, Wigtownshire, N.B., will be attended to.

100 lbs. HEATHER HONEY, IN SECTIONS,

From each Colony, is what you may expect by using our special "Crown Heather" Queens, bred from a mother whose stock stored nearly 100 lbs. this Spring by the middle of May. These are reared expressly for our great Northern demand. Money returned in full if not approved. Particulars of S. SIMMINS, Seaford, Sussex. 132

FOUL BROOD REMEDIES.

NAPHTHALINE

AND

NAPHTHOL BETA.

NAPHTHALINE, for using in hives as a preventive of infection, in boxes, 1s. post free.

NAPHTHOL BETA, for use in medicating bee-food, 1s. a packet, post free.

Both the above may now be had at the Office of

"THE BRITISH BEE JOURNAL" and "BEE-KEEPERS' RECORD,"

17 KING WILLIAM STREET, STRAND, LONDON, W.C.

Instructions for use sent with each packet.

CASH WITH ORDER.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 573. Vol. XXI. N.S. 181.] JUNE 15, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—We are still enduring an exceptionally dry time in the south. "Glorious summer weather" it is, no doubt, justly termed in one sense, but so dry and hot that farmers may well despair of securing much beyond a very short crop, no matter what branch of agriculture is relied on. Hay is now 7*l.* per ton, with a more than probable increase to 10*l.* ere long; pastures are scorched yellow for lack of rain, and considerable uneasiness is felt as to how cattle are to be fed for the next two months in view of the terribly scant hay crop.

Nothing like such hard times as these threaten bee-keepers, who should consider *their* industry particularly fortunate in results so far as the season has gone. A good many in the south have already "got in" a fair harvest, while there is still a good three weeks for working in and adding to it. From some parts of the Midlands we also learn that bees are just now getting started on clover, and that "honey is now flowing." Further north rain has been so much more plentiful than with us that pastures are reported "looking green and well." A Yorkshire correspondent a few days ago wrote: "Looking forward for a grand season here this year; nice rain has len and plenty of honey coming in."

SCARCITY OF SWARMS.—Quite a surprise was created during the month of April last at the early start bees made in swarming. Then came a change in the weather for a fortnight, with a complete suspension of anything like the swarming mania expected. So far from early swarming being general his year, just the opposite has occurred, and so scarce have been natural swarms that those who deal in these have been quite unable to "fill" orders. In addition to the experience of Mr. Sharp (1461 p. 234), we learn of another large apiary (nearly fifty stocks) where not a single swarm had issued up to the second week in June. Drones, too, have been remarkably scarce this season so far; in our apiary it has been quite the exception to see one, and only during the last day or two have we heard of such premonitory signs of swarming as the loud "drone-hum" at mid-day, or the "turn-out" of young bees *en masse* for an "airing." We look forward to a change, however, in the course of a few days, and expect that swarms will be heard of in many parts.

THE "WELLS" PERFORATED DUMMY.—A correspondent (1449, p. 214) refers to this, and it was also mentioned by "T. I." on the same page. The perforated dummy having rather failed in its purpose by warping so badly in one case as to necessitate its removal, and in the other "nearly all the perforations were stopped" up by the bees with propolis. Now, seeing that the dummy as made by Mr. Wells himself is quite free from warping, and that comparatively little propolisation takes place in his experience, it would be instructive and interesting if we could have had the dummies used by our two correspondents sent along to this office for the purpose of comparing with a genuine "Wells" perforated divider. An inspection of them might show wherein the difference consists. Cost of carriage to and fro will be gladly paid if our correspondents will oblige us in the interests of readers.

SUPER-CLEARERS.—We have just made practical trial of the two latest super-clearers put on the market, viz., Meadows' "B-off," and "Webster's No. 2." It may be said that both will do the work required

of them. The former had the four double escapes affixed, as shown at the *conversazione* and referred to on p. 213 of the *B.J.* of the 1st inst. We found that the impression we entertained on first examining the clearer was verified on making a practical trial, and we are glad to say that reducing its cost by using only one escape instead of four, adds to its effectiveness as a clearer.

The "cheap" Webster clearer was put under a box of sealed shallow frames at 8 a.m., and at 8 p.m. the same day just four bees were found in the box. We did not try how soon the bees would have found their way back had the honey been left on, but the result, so far as clearing the super, was perfectly satisfactory.

MAINTAINING THE "WORKING IMPULSE" IN BEES.—It is not generally known how advantageously bees may be kept working at high-pressure speed by a little judicious "management" under certain circumstances. For instance, when removing full boxes of sealed combs, if we can replace them with similar boxes furnished with ready-built combs, and among these latter are placed two or three "wet" ones just from the extractor, and dripping with honey, the bees will "tear away" with redoubled energy to refill them, working far harder than if dry combs or only sheets of foundation are given. One of our stocks "coaxed" in this way is just now completing its fourth box of ten shallow frames in each, and is still working away hard as ever.

WEAK STOCKS AND THE WELLS SYSTEM.—With prompt and characteristic candour, Mr. W. Woodley, on p. 225, reports his trial of two weak colonies in a "Wells" hive "not a success at present." An inate feeling of what the result would be if weak stocks were relied on for double-queened colonies has made us rather deprecate the notion of starting the system with any but good, strong stocks, and if so experienced a hand fails in getting two weak lots to work satisfactorily, it may be assumed that others less expert will fail also. There is, however, one difference to be noted: if stocks are weak from causes easily understood and accounted for, there is no great disadvantage in using such. We cannot conceive more promising material with which to stock a "Wells" hive in autumn, than a couple of second swarms, or casts, which having issued late in the season may be numerically weak in the autumn, because no time was left in which they could become strong colonies. If time enough were allowed before the winter set in for the young queens to breed as many bees as would form a brood cluster—small it may be—in spring, a couple of such queens, young and full of lusty fecundity, will so soon fill the hive with young bees as lusty and full of work as themselves that the colony so headed will run away from one strong, it may be, on going into winter quarters, but headed by queens already partly worn out by excessive egg-laying the previous season. The "weak stocks" referred to are ideal ones for "Wells" hives, but stocks "weak" it may be from disease, or failing queens, are unsuitable in every way.

JOHN HUCKLE TESTIMONIAL FUND.

The following donations to the above have been received or promised:—

	£	s.	d.
T. W. Cowan	3	3	0
H. Jonas	3	3	0
W. Broughton Carr ...	2	2	0
Miss J. Cooper	0	5	0
John Walton	0	5	0
A. W. H.	0	1	0

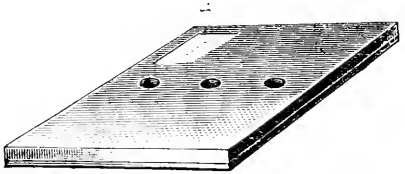
HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of May, 1893, was 2991*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

NOVELTIES FOR 1893.

WEBSTER'S CHEAP SUPER-CLEARER.

The clearer illustrated below is a very simple arrangement. A three-quarter-inch board has three circular holes about one inch in diameter on the upper, but "countersunk" on the under-side, and although the whole of the enlarged under-surface of the hole is covered with woven wire, two channels cut in opposite directions and deep enough to allow passage for a single bee at a



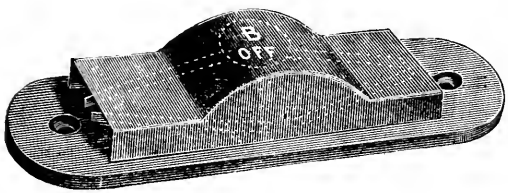
time effect a clearance. Concerning the appliance the maker says:—

"The price is very low, and you get a

'clearer' which I find, after two seasons' trial, acts just as effectively as the original 'Webster's Super-clearer,' or any other, up to a certain limit of time; but it must not be left on the hive more than twelve hours, as the bees commence to find their way back after that time; perhaps a dozen will get back during the next six or seven hours."

Meadows' "B-Off" Super-Clearer.

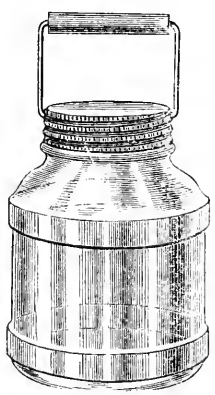
This is neither more nor less than an adaptation of the American "Porter bee-escape," the difference consisting of providing two exits for the bees against one in the latter. The illustration only shows the escape proper, but it should



be added that, in order to complete the appliance, the "escape" must be affixed to a platform similar to that used with the "Porter." Mr. Meadows, however, provides bee-space on both sides of the platform, so that supers may be cleared of bees either on the hive or after removal from it, by reversing the platform as required.

A Glass Honey Pail.

Many housekeepers, who are also honey-users, will consider that Mr. T. B. Blow, of Welwyn, has filled a want by introducing this



article as a new "bee-appliance." The cut shows what it is like, and we may add that the "pail" is of clear glass; the "bands"—also of glass—above and below, giving it strength and durability. It holds about eight pounds of honey, and has a strong screw-cap of plated iron, with handle (as shown). It is not intended to be used once and cast aside, as with ordinary glass jars, but as a "family jar," to be refilled as required.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BROMINE FOR FOUL BROOD.

[1460.] With a view to removing some possible misconception, and to explain a little more clearly what it was I proposed to do with regard to my attempt to treat foul brood with bromine, I should be glad if you would permit me to make here a few remarks supplementary to those I made at the last quarterly meeting of the B. B. K. A.

I have taken it for granted that in using the remedies hitherto employed, a cure, in the strict sense of the word, was not attempted, since the aim was simply to arrest the development of the bacillus from the spore. Successful as these remedies may prove in doing this, there must inevitably remain in the hive an immense number of spores, not in suitable condition for germinating, which it is impossible for them to touch, and hence subsequent outbreaks of the disease after apparent cure. None of the remedies, I believe, at present employed aim at destroying the spores before development into the bacillus takes place, and for the very good reason that the spores are so extraordinarily resistive, that any of those agents which would be powerful enough to effect their destruction would, under ordinary circumstances, be most likely to destroy the stocks.

That bromine is an agent which is powerful enough to actually destroy every spore in the hive, and not only those in suitable condition for germinating, is practically certain. The experiments of Koch upon anthrax spores leave little doubt on this point. For my own satisfaction, however, I inoculated a tube of nutrient jelly with spores from a piece of comb which had been subjected to the fumes of bromine, and from which I had already obtained a pure cultivation of foul brood, and found they were actually destroyed. That bromine, in comparatively small doses, will kill the spores I think

we may take for granted; the real question is, whether it is possible to employ such a powerful remedy without injury to the stock. And this is the problem which I have made an attempt to solve.

I stated at the B.B.K.A. meeting that two stocks, badly diseased last autumn, and which I treated with bromine, were now healthy and strong. That this is not proof positive of the efficacy of bromine in curing the disease, I grant. These two stocks might, or might not, have recovered by natural means (in my own mind I have little doubt they did *not*), but what they do prove is this—and this I take to be the important point of the experiment—that two stocks, subjected as they were to the bromine treatment, are to-day, notwithstanding, alive and strong. But that the practicability of this mode of treatment has by no means yet been demonstrated, I would be the first to admit. I am conscious of some serious objections and difficulties, and there are doubtless others which I have not foreseen, and which those of more experience than myself will be able to point out. At the same time, though but a modicum of success has yet resulted, and freely admitting as I do that it is quite premature to speak of positive results, I am inclined to think that it is at any rate worth while giving the treatment some further trial. — GERARD W. BANCKS, *June 5th*, 1893.

BEE-KEEPING NOTES.

[1461.] Bees have not done much here; they wintered well, came out unusually strong in spring, and required very little feeding. They have been at work almost every day for the last three months, during which time we have not had more than twelve hours' rain all put together, and very little honey has been gathered. The nights, too, throughout have been very cold, and breeding has been carried on very tardily; progress has, consequently, been very slow. Many of my stocks were stronger in March than they were in the middle of May, and it is only during the last fortnight that any perceptible headway has been made. Stocks are now coming on well, many of which are taking to supers. There is, however, a marked absence of drones, hardly any to be seen in my apiary of over fifty stocks, none of which show any signs of swarming, and I have not heard of a single swarm in the neighbourhood.

The meadows, which at this time of the year usually abound with white clover, are almost as bare as the high road. Several acres of grass have been cut for hay, but the crop is so light that it takes from six to seven acres to produce a load. Bee-keepers here are beginning to despair of getting any honey this turn; but my long experience as a bee-keeper teaches me that it is too soon to despair until it becomes too late to hope. Our best time here—in fact, the only time that we get any *surplus* worth speaking of —is from the middle of June to the middle of July, so that we have four or five weeks yet before our usual time is over. Everything, however, is so out of course at the present time that we scarcely know where we are; but we have yet the limes to come. The working force of each hive is daily increasing, and if we could but get a week of real wet weather, followed with ten days to a fortnight's bright, warm weather, we should be abundantly rewarded for our trouble and outlay.—A. SHARP, *Huntingdon, June 10th.*

SEPARATING SWARMS.

[1462.] As the possessor of a "Wells" hive (not yet in working order), I have been considering how to overcome to some extent the difficulty of both sides of the hive swarming at the same time and uniting. In the March number of your monthly, under the heading of "The Coming Campaign," an account is given how an American gentleman separated three swarms between two boards on the ground. Now, if swarms will separate between two boards on the ground, with empty frames and combs hung between them, I think a double swarm could very easily be hived by removing the perforated dummy from an empty "Wells" hive, and placing combs and empty frames in position, as described in the *Record*, and by then pouring the bees from the hiving skep into the centre of the prepared hive. I do not see why the two swarms should not sort themselves in a hive in an equally accommodating manner as they did between two boards. In one case the perforated dummy would have to be reinserted and all closed down; whereas in the other, both swarms would have to be hived separately after they had "divided up." Perhaps some of your numerous correspondents have tried the above method, and will report their experience.

Will you explain, for the benefit of the uninitiated, how to clarify honey?—SANNYER ATKIN, *Norton Lees.*

[The only clarifying honey needs is to pass it through very fine muslin or coarse flannel, in order to remove any particles of wax, &c. Then, if it loses its clearness by beginning to granulate or become solid, it may be cleared and reliquefied by inserting the vessel containing it in fairly hot water for a time. Dark or muddy-coloured honey cannot be "clarified" so as to render it light-coloured and bright.—EDS.]

THE DOUBLE-QUEEN SYSTEM AND THE WELLS DUMMY HIVE SUITABLE FOR THE SYSTEM.

[1463.] You will see by above heading that I do not use the term "Wells hive" nor "Wells system." Both these terms are misnomers. As regards the former, Mr. Wells himself tells us that, "having hives by him holding fourteen frames, he adapted them to the double-queen

system," or words to that effect; while as to the latter, both Americans and Englishmen have been trying to bring about the double-queen system for a long time. I myself have been at it for at least six or seven years, and I know others who gave it up as impossible about that time. No, gentlemen; Mr. Wells has invented neither a hive nor a system, but he has succeeded in perfecting a system in which I believe all previous efforts failed, and has certainly shown us how two colonies of bees may be united without one of the queens being destroyed.

As regards Mr. Wells' dummy, we were merely told that it was of thin wood perforated with holes too small for the bees to pass through. It immediately occurred to me that the secret lay in the fact that the dummy was sufficiently thick to prevent the bees communicating through it by means of their antennæ, whilst the air passing through the holes from one part of the hive to the other gave all the inhabitants the same scent, and prevented them detecting the subjects of one queen from the subjects of the other. The experiment I am about to relate hereafter will, I think, tend to show that this theory is at least feasible.

As to a suitable hive for this system, "F.F." (1436, p. 196) in your issue of May 18th last, seems to me on general principles to have hit upon the right construction of a suitable hive.

The following is a description of a hive I have now in use, sketch of which I enclose. Before commencing the description, I will say that the hive is sufficiently long to hold ten frames and a dummy on either side of the perforated one. The body is $31\frac{3}{4} \times 13\frac{1}{4}$ inches inside, and 33×15 inches outside measurement; it contains on either side of the perforated dummy seven frames and a movable three-sided dummy containing a feeding-bottle accessible from the back of the hive.

Over the centre of the double hive is placed either another ten-frame body $16\frac{1}{2} \times 15$ outside, or a crate of the same size containing twenty-one $4 \times 4\frac{1}{2}$ sections, or ten shallow frames (close-ended) as may be desired, with or without a perforated dummy, and on one of these any further supering takes place. The supers are covered with an ordinary ten-frame zinc-covered hive roof, and on either side the twin body is covered with two lean-to zinc-covered roofs, making altogether a very picturesque appearance.

If the hive is made to take the Standard frame (17 ins. top bar), I would recommend that the section crate be 17 ins. wide, and to take twenty-eight $4\frac{1}{4} \times 4\frac{1}{4}$ sections, with walls of $\frac{3}{4}$ in wood.

The floor-board is the same in principle as that used in the "English" hive; the alighting-board runs along the front without any division of the two entrances, which are about ten inches apart; there is an arrangement above to increase the entrances for ventilating purposes, and there is no useless porch.

The perforated dummy is an ordinary $\frac{3}{8}$ in. thick one, with twenty-four (not 300) holes fully $\frac{1}{8}$ in., but two small for a bee to pass through. Whether this dummy will permanently answer or no I cannot say, but so far as my present experience goes, it certainly does.

On the 28th April last I allowed two large swarms to run into the hive, one on the one side and one on the other; they soon started working out comb, commencing nearest the perforated dummy. Within about a week, I raised up the quilt and gave the bees some syrup on the top of the dummy, so as to bring bees from both lots together, that I might watch whether they started fighting. I am pleased to say they did not fight, but drank together on the bar in the most friendly way. The other day I changed a frame with about three hundred bees on it from one lot to the other; the latter received them without the slightest sign of hostility.

The bees are frequently to be seen running along the alighting-board from one entrance to the other, crossing antennæ, and back again. These bees get on far better than any of my others; the frames are almost filled with brood, and are ready to super, so that so far both dummy and system are a perfect success.

I may say that my colonies here killed off the drones about the first week in May, and became as spiteful as in August, but a little honey seems now to be coming in (June 7th), and some of the hives have a few drones flying again.—A. T. Wilmot, *St. Albans.*

TECHNICAL INSTRUCTION IN BEE-KEEPING.

[1464.] The Lindsey division of the County Council of Lincolnshire at their meeting on Tuesday, 6th inst., made a grant of 25*l.* to the Lincolnshire Bee-keepers' Association for the purposes of Technical Education in Bee-keeping in the parts of Lindsey. If the Kesteven and Holland divisions will do likewise it will be a good start.—F. J. C., *June 8th.*

SOUTH OF SCOTLAND BEE-KEEPERS' ASSOCIATION.

[1465.] All your readers will, I feel certain, be pleased to learn of the increased attention bee-keeping is receiving in this the "Queen of the South." Although several of our fanciers have from time to time done much towards making bee-keeping popular in our district, and have brought home more than their share of trophies from our large shows, we really received our best impetus when Mr. Wilson (than whom no more successful or enthusiastic fancier lives) came to reside in our midst. It is to him we are in a great measure indebted for the formation this season of an Association, which has for its object the encouragement and improvement of bee-keeping. With Mr Newbigging as President; Mr. Wallace, Vice-President; Mr. Nelson, Secretary; Mr. Palmer,

Treasurer; a powerful Committee, and every one of our fifty members working with a will, we require only a good season to develop into a a most flourishing Association. For Patrons we have the popular Laird of Munches, W. H. Maxwell, Esq., and several other gentlemen of position and influence. Our Hon. Presidents include the Members of Parliament for the Stewartry and the county, along with the enthusiastic Hon. Secretary of the Scottish B.K.A., Sir Thos. D. Gibson-Carmichael, Bart.

As you will see from the prize schedule, enclosed, we have taken over the honey classes from our flower show committee, and, to the *open* classes already drawn up by them, have added quite a number of prizes, open only to members of our Association. I trust you will draw attention to our show, which takes place on August 29th and 30th next, and ask all beemen to assist us in this our first enterprise. I am pleased to say bees with us are unusually strong. White clover promises well, and, if the limes only *won't* bloom for a fortnight or three weeks, we, if favoured by good weather, will have some good stuff to show.—RUN HONEY, *Dumfries.*

[Beyond wishing every success to the new Association, we cannot add much to the spirited appeal of our correspondent, except to refer readers to the advertisement giving particulars of the coming show on another page of this issue.—EDS.]

STAFFORDSHIRE BEE-KEEPERS' ASSOCIATION.

[1466.] It may interest you to hear (and see by the prize list) that the "Staffordshire County Bee-keepers' Association" is still in existence and healthy. Though in the spring of 1891 it was proposed to wind up the Association as having fulfilled its mission, three of the Committee thought otherwise, and eventually an amendment was passed to the effect that it should be carried on. The three members then craved consent to be allowed on their own responsibility to carry through the annual exhibition (in connexion with the County Agricultural Show) at Leek without any pecuniary help from the Association, save the granting of two medals. This was done successfully, and (although it was prophesied that if the Association had carried out the show it would result in a deficit of 17*l.*) the nice little sum of 3*l.* 17*s.* was placed in the bank after meeting all liabilities as a nucleus for the Stafford Show, which was also another success in 1892.

Given a good harvest in 1893, I hope to see a good report from the judge the B.B.K.A. may be pleased to send to adjudicate on the exhibits at Lichfield. I enclose prize list where money to the sum of 21*l.* is offered, besides one gold medal, value 3*l.* 10*s.*; three silver medals and two bronze. Not so bad for an Association which was in 1891 all but dead! — ELIHU CLOWES, *Staffs.*

Echoes from the Hives.

Somersham, Hunts, June 10th.—For some weeks bees have had little to work upon about here, and now that the clover is blooming, it yields little nectar and is quickly over. Mustard crops, to which we have been looking with anxious eyes, are very indifferent in consequence of the drought, much of the seed not having germinated. We shall, however, I fancy, have much to be thankful for when that which has come up is in bloom.—C. N. W.

Honey Cott, Weston, Leamington, June 6th, 1893.—Bees appear to be on the "go" this last day or two; about half a mile from here I saw a field of white clover in full bloom and so short that it cannot be mown—at least, at present—so my bees ought to do something on that. There are also lots of fields of beans all around.—JOHN WALTON.

Queries and Replies.

[798.] 1. What is the approximate weight of a standard frame, every cell full of honey and capped, and fit for extracting? 2. Where is the largest bee-farm in England? I desire to spend a short holiday in the vicinity of one. Is there one in the West? 3. Would there be a swarm if no drones are flying from a supered hive? I have four stocks in bar-frames with supers on, and honey and pollen are going in moderately; but no drones in either as yet (June 2nd). 4. I have heard it said that drones do not go off with a swarm, but remain attached to the old hive. Is this so?—ENTHUSIAST, *Stonehouse.*

REPLY.—1. About six pounds. 2. The largest apiaries we know of are those of Mr. William Woodley, Newbury, Berks, and Mr. William McNally, Glenluce, Wigtownshire. We are not aware of any large bee-farm in the West. 3. No. 4. Drones often accompany a swarm, but they usually return to the old home.

[799] *Treating Foul Brood.* — Will you kindly let me know if the comb I sent for your inspection is affected with foul brood? If so, please state whether it is of a pronounced type, and what measures you would recommend me to take? I have ten stocks in all, four of which are fairly strong, but not particularly so, considering the abnormally fine weather we have had. In the case of the others, that rapid increase which ought to be observable at this season has been wanting, and the combs are similar to the sample sent. I have been using naphthaline in all my hives as a preventive. All the stocks wintered well and were in good condition in the spring. They have received every attention,

and I think there is no possibility of the brood having become chilled. A number of stocks belonging to cottagers in the neighbourhood have become defunct—through foul brood, as I surmise, and I have not been able to induce them to take any proper precautions. I shall use my best endeavours (hoping to have the benefit of your valued instructions) to stamp out the disease, if present. I should be very reluctant indeed to relinquish a hobby from which I have derived so much pleasure, on the first appearance of (practically) the only enemy we have to dread.—J. S. B., *Co. Tyrone.*

REPLY.—Comb is affected with foul brood; not in very pronounced form so far, but distinctly there. The bees have evidently been paying frequent visits to the foul-broody skeps of your cottager neighbours mentioned, and the preventives used have checked its more serious development. At this season it is not easy to apply curative remedies, owing to the difficulty in getting bees to take medicated syrup while honey is to be had in the fields. Beyond keeping up the supply of naphthaline we should do nothing with the four stronger stocks till the season is over. For the other six stocks, if on examination they are found to be getting worse instead of better, refer to reply to 775 (p. 187) of *B. J.* for the 11th ult.

[800.] *Removing Queen-cells to Prevent Swarming.*—Would you kindly enlighten me on a few points relative to the cutting out of queen-cells? 1. How often is it necessary to do it? I cut some out about three weeks ago, just before I supered my hives. Is there any danger of new queen-cells being formed this season? 2. Ought I to take off the supers from time to time, and see to this? 3. Ought I to cut out *all* the queen-cells, or ought I leave *one*, in order that they may rear a young queen should the old one die? 4. What is about the average life of a queen?—APIS, *Hartlepool, June 7th.*

REPLY.—1. If the removal of queen-cells is relied on as a preventive of swarming, they must be removed as often as formed, and no reliable data can be given as to how frequently this will occur. There is "danger" of this so long as the swarming season lasts. 2. We should not advise this trouble; rather risk it, and, if a swarm issues, cut out queen-cells before returning it. 3. Unless all the queen-cells are removed, it will not prevent swarming. 4. Three to four years, but queens should never be kept after their second year.

[801.] *Transferring Bees from Skeps.*—1. At what time ought I to transfer bees from skeps to frame hives so as not to injure brood? 2. Ought I to put them on whole sheets of foundation, or transfer combs containing brood from skeps to frame hives? 3. Can I put the bees from two skeps in one frame hive?

I thank Mr. Woodley for his advice concerning my query in *B.B.J.* (1386, p. 127). I have tried his plan and find it succeeds well. Three skeps are working well in supers, but two are not. I have not had any swarms yet.—AN ESSEX LABOURER.

REPLY.—1 and 2. Reference to *B. J.* for March 16th (p. 110) will show our view of the best way to transfer bees from skeps to frame hives at this season. 3. Yes; if the bees are shaken up together after "driving," they may be thrown out in a heap in front of the frame hive, and they will run in without fighting.

[802.] *Suspected Foul Brood.*—One of my hives has been doing very little for two seasons. This springtime the colony rapidly decreased. About seven weeks ago I examined the combs and found some brood, and I looked again later, when I found there was less brood and several eggs in many of the cells. I then destroyed the queen, and about a fortnight afterwards I opened the hive, and although the bees had started a queen-cell, I determined to destroy them, so as to be able to use the hive. The grub in the queen-cell was surrounded by the royal jelly. There were no drone-cells, and when I examined the comb on which the queen-cell was formed, I found several cells sealed, which contained either a grub in a very soft, sloppy state, or a thick brown fluid. This makes me anxious to know whether my hive contains foul brood? There is no smell, and there is a fair amount of granulated honey in the combs. I should like to use the combs for a swarm if I could be sure they were not diseased. There were not many cells as described, and I hope that it may merely be a case of chilled brood. I have three hives alive, and for the first time this season I saw a drone on June 5th, yet in two of the hives the bees are on ten frames, and doing well.—A. G. BALDWIN, *Durham, June 10th.*

REPLY.—The appearances described point very strongly to foul brood, but we could not be certain without seeing the comb. We should, however, not think of using the combs for a swarm, or even the hive itself without first disinfecting it.

[803.] *Artificial Swarms from Skeps.*—1. I have some skeps of bees which I should like to put in frame hives. When is the best time to do this? 2. Would it be best to unite two or more from the straw hives when putting them in the frame hives? 3. All the syrup I have bought granulates and stops the holes in feeder. Should it do this? What I bought is not half liquid.—NORFOLK.

REPLY.—1. If your inquiry is as to the best time to drive an artificial swarm from a skep, and put the bees into a frame hive, we reply the sooner it is done the better. 2. If a fair-sized swarm (say, three or four pounds of bees) is driven, there is no real need to unite two together. 3. Well-made syrup should not granulate, and it is better to make than to buy

it. At this season there is no need to do more than pour a quart of boiling water on three pounds of sugar, and stir till it dissolves.

[804.] *Bees and Honey-dew.*—I am enclosing a sample twig of each of two trees now being frequented by bees. They are marked 1 and 2. Kindly tell me—1. What are bees gathering from No. 1 and No. 2, and what are the names of both? 2. No. 1 is not in full flower yet. Does it yield honey when it is in blossom? 3. The clover around seems in bloom, but no honey coming in. Is that why they gather something from the trees as sent?—ELM GROVE, *Taunton, June 9th.*

REPLY.—1. The bees are gathering honey-dew from both trees, the leaves being covered with it. No. 1 is the well-known lime-tree. 2. The blossom of the lime is one of the best honey-yielding flowers in this country if the weather happens to be suitable during the ten or twelve days the bloom lasts. 3. Bees have no preference for the secretion known as honey-dew—in fact, rather the contrary—if other sources of supply, such as white clover, are open to them, but they do gather it largely when other supplies run short.

BEE-MANAGEMENT IN SUMMER.

(*Concluded from page* 228.)

If, in the natural order of things, one has a prospect of more colonies than one desires, about the first of June is the ideal time for reducing stock by uniting those that are not very strong. To put it in another way, if I had two hundred colonies and desired to keep no more than that number, I would gladly have one-half of them cast swarms every year, or more if they would do it early, which I would hive and then reduce to the desired number the following year by uniting, say, ten days before the opening of the early honey season. I have no desire for a race of non-swarming bees; I want a fair amount of swarming and I want it *early*. It is from such colonies that the large amounts of surplus come. I would not willingly forego the advantage to be derived from the large reinforcement of vigorous young queens that may be had at swarming-time for almost nothing, to be relieved of the labour involved in caring for the swarms.

If necessary to be certain of having all the young queens I can use, I remove the colony from which a swarm has issued from beside the hive containing the swarm to a new stand before the queens are due to hatch, and divide it into from two to four nuclei, taking care that each has one good cell. In a few days the queens are laying, and can be used to replace old queens that are still coming out with swarms or otherwise, and the nuclei reunited or given ripe cells and allowed to rear another batch of queens.

Although at times during the spring considerable honey may be coming in, yet there are always some bees on the look-out for honey that can be got in an easier way than the honest way—therefore continual watchfulness during this entire month, if there are weak colonies in the apiary, is necessary if robbing is to be prevented; indeed, watchfulness should begin at the very opening of spring. Perhaps there is no other item in the management of the apiary that requires the same degree of skill as this, and the difficulty, especially with beginners, is rather in its detection than in stopping it when discovered. Where it is suspected, the most decisive measures should be used to learn the facts, and if it exists to discover and thwart the offending colonies. These matters may best be determined by visiting the apiary just before and just after the bees engaged in honest industry are on the wing. Like human beings, the bees are more in earnest in the doing of evil than in the doing of good; so those engaged in deviltry are busy both earlier and later than those honestly employed. A few minutes at such a time will reveal the whole situation. Ordinary care will prevent danger from robbing except where there are colonies that will not defend themselves. The weakest colonies can protect themselves when so disposed if the entrance to their hive is sufficiently contracted, and every careful apiarist will see that they have at least this much assistance; but when the bees will not defend their hive, contracting the entrance is no remedy. In such cases the only satisfactory method of dealing with them is to exchange the hives, *i.e.*, to put the hive of the robbers in place of that of the robbed and *vice versâ*. By this plan the weak colony is strengthened, and that by bees that will vigorously defend their new home. And the robber colony—it is laughable to see how completely it is nonplussed by the new arrangement. The altered situation seems beyond the power of their little heads to comprehend. With me nothing but good effects have resulted from the use of this plan, while every other is more or less a failure.

It is now time that all preparations for the early honey season should be approaching completion, and, among the rest, plans for securing swarms should be matured. In the first place, I would have all queens clipped; especially would I advise it in the case of beginners, even if queen-traps are also to be used, it is such a source of convenience and security. Then I would have at least a few queen-traps. Even when one is to have his apiary watched during the swarming time as a rule, yet there are many times when this might be inconvenient, and in the early part of the forenoon and during most of the afternoon this would be hardly necessary; so, during the time when the first few straggling swarms of the season are appearing, a sufficient number to bridge over such times as these I consider indispensable. If one can make them himself the expense is very small, and in such case he may well secure a full supply.—R. L. TAYLOR, *in* "*Bee-keepers' Review*" (Am.).

Bee Shows to Come.

June 19th to 23rd.—Royal Agricultural Society's Show at Chester. Secretary, John Huckle, Kings Langley.

July 19th to 21st.—Lincolnshire Agricultural Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

July (date not yet fixed).—Berks B. K. A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

July 26th, 27th, 28th.—Lancashire and Cheshire B.K.A., in connexion with the R.M.L. and N.L. Agricultural Society's show at Blackpool. Entries close July 1st. James Birch, Secretary, 3 Brunswick Street, Liverpool.

August 1st and 2nd.—Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries close June 24th. For lists apply Marshall Stephenson, Secretary, York.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 29th and 30th.—South of Scotland B.K.A. at Dumfries. Entries close August 25th. Wm. Wilson, Secretary, Acrehead House, Dumfries.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

*** The conclusion of Sir T. Shepstone's paper on *The Honey Bird* is unavoidably held over till next week.

A. W. C.—Comb sent is so badly affected with foul brood that we should not, under the circumstances, attempt curing the stock. The combs and frames should be promptly burnt, and, if the queen is young enough to do well under healthier conditions, the bees might, after disinfecting the hive, be put on sheets of foundation, and fed with medicated syrup. If the queen is old, we would destroy the whole stock, as it is a bad case.

J. Pearman.—*Fertile Workers.*—The mysterious phenomenon of nature which allows of the reproduction of species without fertilisation is known as the law of *parthenogenesis*, and the worker-bee is one of the few insects so endowed.

F. M. Bayley.—1. To become an "expert," it is necessary to have a thorough knowledge of bees and their ways, and to be able to handle them skilfully. 2. You were probably right in explaining why the skep was beeless. 3. There are many superstitions about bees quite as curious as the one related.

J. G. K. (Southborough).—*"Wells" Lifters for Raising Frames of Comb in Bulk.*—Mr. Wells is now engaged in making an improved "lifter," which we will probably illustrate when completed.

T. Watson (Midlothian).—*Claiming Runaway Swarms.*—The fact of the swarm not having been kept continually in sight from the time of leaving your hive till it entered that of your neighbour destroys your *legal* claim to the bees, and we should not advise your taking action for the recovery of the swarm. Though you may be morally certain it was your bees which took possession of the empty hive, the law requires legal proof, which we are sorry to say the facts detailed do not furnish you with.

Novice (Sheffield).—*Second Swarms.*—If so long a time as twenty-one days has passed since the first swarm issued, no further swarming may be looked for this season.

C. Chisholm.—Queen sent is old and worn out.

Geo. H. Strong.—*Making Artificial Swarms.*—If there is no more than the "commencement of a new queen-cell" a week after making the artificial swarm, it is certain that no queen will be raised. You might try them again with a frame of eggs and brood from the swarm, otherwise there is no remedy but re-queening or uniting the bees to the swarm. Pure Ligurian queens can be had

both from English firms and from foreign queen-raisers. Please consult our advertising pages for names and addresses, as we cannot recommend particular dealers.

J. McKEAN (Castleblaney).—*Extending the "Wells" System.*—The footnote to 1446 (p. 207) was intended simply to express our own opinion, as is usual with those whose "office" it is in some measure to guide that of others, and to exercise that restraining influence so useful in bee-keeping matters. Now, when our correspondent suggests that we should write an "exhaustive article" on a subject we consider hardly worth discussing, it is surely permissible for us to prefer instead suggesting a trial of the double-queen system before rushing into a six or eight-queen plan. At the same time there is no reason why our correspondent, or any one else, should not try the extended scheme, and we will be very pleased to report results for the benefit of readers. Reference to *B.J.* of March 30th and April 20th last will supply all the information needed for "wiring" frames.

*** *Errata.*—On p. 208 of *B.J.* for May 25th, second line from top, for "supers" read *rafters;* and, five lines lower, for "sunny" read *wintry.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BERETON, Pulborough, Sussex. f. n.

WANTED.—Good 1 lb. Sections of '93 Honey, for Cash, in Glazed Boxes—either Tin or Cardboard. Address N., *Bee Journal* Office, 17 King William Street, W.C. A 63

FOR SALE.—Fertile Queens, 3s. 6d.; also Swarms of my Splendid Strain. 15s., packed free. Address JOHN WALTON, Honey Cott, Weston, Leamington. A 67

IVY-LEAF Geraniums, Marguerite Carnations, Single Dahlias, Paris Daisies, 12, 1s. 6d. Rœmir's Superb Mimulus, Nicotiana Affinis, Petunias, Ten-week Stocks, Pansies, Salvias, Ageratums, Dianthus Heddiwigi, Perillas, Zinnias, 24, 1s. 6d.; 50, 2s. 6d. Iceland Poppies, 24, 1s. 3d.; 50, 2s. Open-air and Mammoth Tomatoes, 24, 1s. 6d. Address VICAR, Egginton, Leighton Buzzard. A 72

HONEYCOMB in Sections Wanted.—Best quality and pale colour. Address T. SMITH & Co., Cambridge Street, Hyde Park. A 81

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

WANTED.—Good clear Honey in 1 lb. sections. Ready cash. R. THOMAS, 3 Bryn Eurin, Llanfairfechan, N. Wales. A 82

EXPERT desires Engagement for August. Full particulars to H. E. ATLEE, Bisham School, Great Marlow. A 83

WANTED.—Good modern Extractor in exchange for 29s. Telescope with astronomical eye-piece; also warranted healthy Swarm for Butler's four-keyed 15s. Flute. Both in good condition. Address STONE, Fore Street, Northam, Bideford. A 84

BEE TENT on Hire. For terms apply to G. GUNSTON, Bradley Green, Wotton-under-Edge. 135

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung, Robbing, and Bees entering Cones, &c. Price 1s. per bottle, in handsome, coloured Postal Boxes. Samples of Bee-Smoke Cartridges, 3d. Address T. HOLLIDAY, Astbury, Congleton. 131

"YE OLDE ENGLISHE BEE."

PURE, Prime Swarms of my Selected Strain of English Bees, all 1892 Queens, Packing-box, and put on Rail free, price 15s. Address W. WOODLEY, World's End, Newbury. 104

(Telegrams—"Ilsley, or Hampstead Norris." Porterage 1/6.

HONEY.—Interesting 8 pp. Pamphlet, explaining to general Public how Honey is harvested and gathered by the Ton. By distributing it you can sell all your Honey at home at a good figure. Copy gratis and post free of S. SIMMINS, Seaford, Sussex.

100 lbs. HEATHER HONEY, IN SECTIONS,

From each Colony, is what you may expect by using our special "Crown Heather" Queens, bred from a mother whose stock stored nearly 100 lbs. this Spring by the middle of May. These are reared expressly for our great Northern demand. Money returned in full if not approved. Particulars of S. SIMMINS, Seaford, Sussex. 132

FALCON SECTIONS

(WHOLESALE)

Either 2 or 4 Bee-way, with or without split top bar, to arrive at Liverpool about middle June, will be sold very cheap from Steamer—cheap from Warehouse. SPECIAL TO DEALERS. Apply to

N. BOXWELL, Patrickswell, co. Limerick. 134

BURTT, GLOUCESTER

ILLUSTRATED CATALOGUE *POST FREE.*

BEE-HIVE MANUFACTURER

108

FOUL BROOD REMEDIES.

NAPHTHALINE

AND

NAPHTHOL BETA.

NAPHTHALINE, for using in hives as a preventive of infection, in boxes, 1s. post free.

NAPHTHOL BETA, for use in medicating bee-food, 1s. a packet, post free.

Both the above may now be had at the Office of

"THE BRITISH BEE JOURNAL" and "BEE-KEEPERS' RECORD,"

17 KING WILLIAM STREET, STRAND, LONDON, W.C.

Instructions for use sent with each packet.

CASH WITH ORDER.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 574. Vol. XXI. N.S. 182.] JUNE 22, 1893. [*Published Weekly.*

Editorial, Notices, &c.

A TRYING TIME FOR VEGETATION.

Never, in all our experience, do we remember so trying a time for vegetation as that through which we are now passing in the south of England. The temperature has, for many days past, varied between 80° and 85° in the shade in London, while the scorching heat of the sun in the open country in Kent, and other southern counties, combined with an almost entire absence of rain, has had the effect of simply killing off all vegetation with roots near the surface; indeed, so hot and so dry is the soil wherein things are supposed to be growing, that it needs but to thrust one's bare hand into it in order to realise how hopeless it is to expect any other result under present conditions. Market gardeners are much to be commiserated; their crops, unless watered, having to a large extent failed to do any good at all. We hear of peas refusing to pod, and the haulm being cut down and given as green fodder to cattle; while field-peas, owing to the same "podding" failure, have been ploughed in by the acre. Beans, onions, lettuce, and the many small crops which go to make up the market gardener's income, have been in many places an entire failure, and we notice that even potatoes are turning yellow in the haulm before the tubers are half formed. Altogether, the outlook for farmers—whose hay crops are miserably thin—and market gardeners in the south of England is a gloomy and depressing one. We may reasonably hope that vegetation has had a better chance further north, where rain has fallen in fair quantity; otherwise the home-grown supply of green-stuff would probably reach famine-like scarcity.

And yet, apart from its adverse effects on vegetation, the weather has been simply perfect judged by our ordinary summer; almost unbroken sunshine for weeks together, with the otherwise oppressive heat tempered by a gentle breeze, and the lovely green foliage of the trees, unaffected by the drought, making the country beautiful to look upon, and outdoor pleasures most enjoyable. For bee-keepers the prospect still keeps good in a large majority of districts, and, as was observed last week, we should consider ourselves extremely fortunate as times go. If anything like such good times are in store for northerners generally as are reported from Scotland in our monthly for July, it will be one of the best seasons for many years. Not only do our Scotch friends look for a good return from the earlier honey, but the heather is looking splendid, we are told, and that plant is not likely to have been affected one bit by the present dry, hot weather.

We therefore enter upon the latter half of the bee-year thankful for the good things received by the "early season" men, and hopeful that the anticipations of those whose main ingathering is only now fairly commencing may be abundantly realised.

Good honey seasons are not too plentiful in this country, and bee-keepers have been sorely tried by disappointing times more frequently than we like; but 1893 is not likely to be included in the "poor season" list from all we can gather.

JOHN HUCKLE TESTIMONIAL FUND.

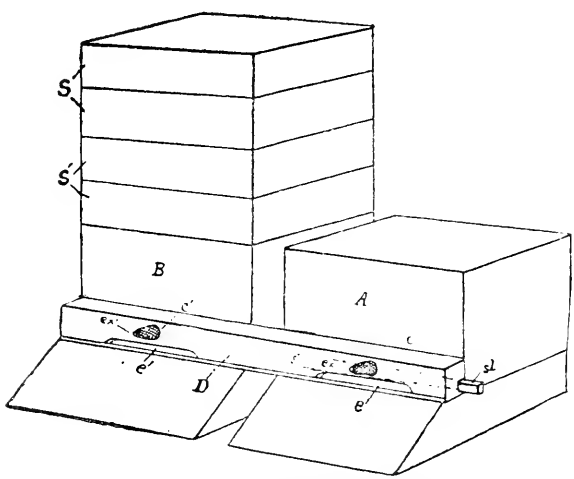
The following donations to the above have been received or promised:—

	£	s.	d.
T. W. Cowan	3	3	0
H. Jonas	3	3	0
George Neighbour & Sons	3	3	0
W. Broughton Carr ...	2	2	0
Jesse Garratt	2	2	0
— Horlick...	0	7	0
Miss J. Cooper	0	5	0
John Walton	0	5	0
A. W. H.	0	1	0

A NEW NON-SWARMING DEVICE.

In bee-matters the wise man "makes haste slowly"—at least, this is our view, and this renders us chary in advising the too-ready adoption of new contrivances intended to serve certain purposes or to accomplish certain results until such trial has been made as will test their capabilities in fulfilling all that is claimed for them. But we must not carry our reservation too far, or some one will be a loser, and so, without further preface, we here publish some particulars regarding a device intended to entirely do away with the swarming of bees, if the bee-keeper so desires it.

Mr. H. P. Langdon, an American bee-keeper and honey-producer, has now made public a method of swarm-preventing, which it is his intention to introduce to the notice of British bee-keepers so soon as certain patent rights have been completed. Mr. Langdon, in a pamphlet now before us, after giving reasons why bee-keepers require something which will lessen cost and increase production, tells of his own invention, and goes on to say: "The mode of operating the device is as follows:—The hives must be arranged through the yard in pairs, preferably on stands, each holding two hives. Before the swarming season begins, attach the device to the front of each pair of hives with two screws through the small holes in the device, with the entrances arranged to correspond with the entrances of the hives, and an inch hole in the end of each hive to correspond with the exit cones of the device. In case the hive has closed-end frames, nail a half-inch rim on the device, to set it off from the hive that distance, and no hole in the hive will be needed.



Beehives with Langdon non-swarmer attached: A, B, hives; S, S' supers; D, non-swarming device; *c*, *e'* entrances corresponding to hive entrances; *sl*, slide for closing entrance; *c*, *c'* conical wire cloth bee-escapes; *ex*, exits of same.

"The bees are now going out and into the hives through their respective entrances, paying no attention to each other.

"Now, call the hive at the right A, and the one at the left B. When the sections are ready to go on, put them all on the hive containing the least number of bees, B, for instance, and insert the slide *sl* into the end of the device so as to close the inner entrance at hive A—the one not having any sections on. This shuts all the flying bees out of hive A, and when they go into the outer entrance *e* of the device on their return, they are attracted along the gallery of the device to the entrance of hive B with their loads unmolested by the guards of the hive. All flying bees in the closed hive A are allowed to come out at the cone exit, *ex*, and they, too, are led into the hive on their return.

"All bee-keepers know that bees will not swarm unless they are booming with honey and are in the height of prosperity, such conditions as favour a good crop of comb or extracted honey. This withdrawal of the working force reverses this condition of prosperity very decidedly in the closed hive A, and no queen-cells will be built, or if they have been started they will promptly be torn down.

"In the meantime the field forces of both colonies are *hard at work* in the supers on hive B, without any interruption.

"At this stage of the proceedings, with a double force of bees and with a large amount of honey going into hive B, that colony will soon begin to build queen-cells and prepare to swarm. So, in a week or ten days from the closing of hive A, or before the colony in hive B can get cells far enough along to swarm, put a case of sections (or more if needed) on hive A, take off all finished cases from hive B, and set the remaining ones, bees and all, over, on to hive A, with those containing the honey at the top. Remove the slide, thus opening hive A, and insert it in the other end of the device so as to close the inner entrance to hive B. This runs all the flying bees the other way into hive A which now holds all the supers, and brings the colony in hive B into the same poverty-stricken condition that hive A was in before. At the same time the field bees of both hives are working uninterruptedly in the supers on hive A.

"In about a week the supers are again placed upon hive B, the finished ones removed and empty ones given if necessary, the entrance to which is opened, while that of hive A is closed. In another week another transfer is made back to hive A, and so on during the honey season.

"This alternation of the working bees and the transfer of the supers so disturbs the plans of

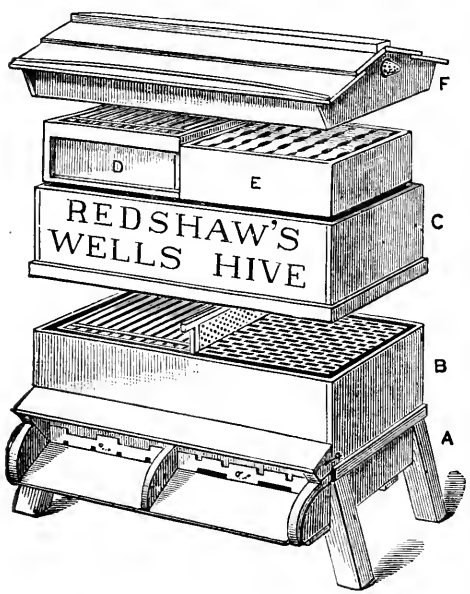
the nurse-bees, by depopulating the successively closed hives, that complete organization for swarming is *impossible*, hence no swarms issue, and the field bees of both hives work *unitedly* and *without interruption* through the entire honey season, bringing about the conditions desired and spoken of by Mr. A. I. Root, as follows:—'*If we can entirely prevent swarming, and keep all the bees at home storing honey all the season, we shall get enormous crops from a single hive.*'—*A B C of Bee-culture*, 1891, p. 289."

We shall leave readers to judge of the article from the inventor's description, one of the main merits, in our eyes, being the fact that he "worked the plan" on a hundred colonies of bees in 1892. Were it not for this plain announcement, we should have been inclined to wonder how several things would "work out" in practice. At present all we can say is, it promises well—*very well*. The "arrangement" costs little, is easily applied, and, if our American friend has really produced an appliance which will accomplish all he claims for it, bee-keepers will owe him a debt of gratitude, and, we hope, will fill his pockets with dollars in payment.

"WELLS" HIVES.

No. 6.—Redshaw's "Wells" Hive.

(A) The stand and legs are framed together. The floor is made in one or two parts as preferred, and each one will fall



two inches in front, or slide out for cleaning, &c. Porch runs full width of hive front, and is raised or lowered to suit floor; with simple slides that will admit of forming entrances of various sizes, and in different positions as required. (B) Is an outer case containing an inner body-box with eighteen standard frames having W. B. C. ends. A perforated dummy of the orthodox size, thickness, and number of holes, well clamped, to prevent warping; two ordinary dummies, two squares of approved queen-excluding zinc. (C) A deep lift, which with the roof will cover two tiers of section racks or shallow-frame boxes. (D) One shallow frame box of ten frames, and (E) one W. B. C. hanging-frame section box is included. (F) The roof is thoroughly well made and waterproof; with a view to lightness, has a drip strip along front to carry wet off at ends. The gables project under eaves, as in W. B. C. hive, to protect edges of the roof boards, and every joint is put together with paint.

WORCESTERSHIRE BEE-KEEPERS' ASSOCIATION.

The eighth annual exhibition of this Association was held on June 13th, at Kidderminster, in connexion with the meeting of the Herefordshire Agricultural Society.

Prize List.

Best exhibition of bees in observatory hive, with queens.—1st prize, Rev. E. Davenport; 2nd, A. W. Rollins.

Best twelve 1-lb. sections.—1st, Mrs. James.

Best six 1-lb. sections.—1st, G. E. Wilson; 2nd, A. W. Rollins.

Best twelve 1-lb. jars extracted honey.—1st, A. W. Rollins; 2nd, C. H. Haynes.

Best six 1-lb. jars of extracted honey.—1st, A. W. Rollins; 2nd, C. H. Haynes.

Best beeswax.—1st, A. W. Rollins.

Best amateur hive.—1st, J. Jeavons.

Best hive suitable for cottager.—1st, A. W. Rollins.

The show arrangements and the staging of exhibits were ably carried out by the Secretary, Rev. E. Davenport, and the judging was undertaken by Mr. Jno. Palmer, of Ludlow.—*Communicated.*

THE HONEY BIRD.

(*Concluded from page* 226.)

Since the occasion I have described above, I have followed very many of these birds, and my experience has in every case been the same, varied only by the accident of seeing or missing the actual point. In the one case the honey is very readily found, in the other more or less delay takes place, but it may always be found by taking advantage of the habits of the bird.

The natives credit this little creature with

intelligence and feeling little short of human. They believe that it feels indignation, or some sort of mental emotion, at being abused, and resents the omission of its proper share of comb being left for it. They believe that the form this resentment takes is to lead the next person it guides to a venomous reptile or a dangerous beast; they are therefore always careful to remember their debt to their little winged guide. I have heard Europeans whose judgment I respect, avow the same belief.

But it seems to me that the whole process is more correctly and naturally accounted for by the facts of the case. The chief or most favourite food of the bird is honey and the honey-comb; it can never or rarely procure this food itself; it evidently knows that man can do so for it. How it acquired this knowledge, and how it became hereditary, it would be useless to inquire. How man came to understand the language of the bird is perhaps more easily accounted for. The fact of the reciprocal knowledge exists, and the operation is simple enough. The bird knows of what in this country is called a bees' nest. It flies away in search of the creature that can help to rob it. It addresses the first man it meets. As I have already described; the man understands; the result is that the bees are robbed and it secures a feast. Its earnest notes, its plucky and confidential manner, its returning emphasis for emphasis, in what seems to be a conversation with man, are well calculated to inspire the belief that it is endowed with man's intelligence, but denied his power of speech.

The, as I think, mistaken theory of resentment is perhaps less difficult to account for. The natural habitat of these birds is a jungle or forest country; it is also the haunt of reptiles and wild beasts. The bird goes straight to its object, flying over bushes and kloofs, while the men who follow are obliged to creep through them. As maybe expected, they occasionally come upon reptiles or animals of whose existence the bird knew or cared nothing, but such unfortunate encounters could scarcely be charged to the bird. Against this resentment theory there is the further objection that, instead of helping, it would injure the bird's prospects of obtaining food. Reason would forbid it, and what we call the instincts implanted by nature rarely operate prejudicially to the existence of their possessors; and who can draw the line that separates the one from the other?

Many years after this I was travelling between where Stanger now stands and the mouth of the Tugela. Our party was a large one; we were a delimitation commission; there were two commissioners besides myself, and a large number of natives. My old friend, Mr. Thomas Green, was one of the party. He and I are the only surviving Europeans. He may perhaps recollect the circumstance, which was made remarkable chiefly by the scepticism of the scientific members of the commission.

We had broken up our camp and were early on the line of march. We had not gone far when the familiar call of the honey bird quite close to us surprised us all. I drew the attention of my companions to the call; they had never heard it before. We had, however, during our travels discussed the subject. My scientific friend had found it impossible to believe any bird to be capable of doing what this was said habitually to do. There must be some mistake, he used to say, or some coincidence, or some way of accounting for it that has escaped observation. I was glad of the opportunity of convincing him, and we, with a number of natives, followed the bird. The usual callings and answerings took place between the bird and the natives, and it made its point about half a mile from where we started. Unfortunately the point had not been seen, so only the whereabouts was known. All our searching was useless; my friend smiled and asked for the honey! My excuses only confirmed his scepticism, and we passed on. We had not gone very far, however, when another honey bird called us, and the same process was gone through, with this difference, that the point was seen and the honey very soon taken possession of. Before we had taken out the last comb, however, the honey that had been pointed by the first bird was brought. It appeared that one or two natives had remained behind to try the plan already described of abusing the bird, with the result that they found the hive and brought away its contents. The triumph of the little bird's reputation was now complete. Even science could not gainsay what its votary's eyes had seen; but as he was unable to explain what he saw, it may be doubted that he could ever bring himself to fully believe it.

The little creature that secures the attention of humanity wherever it chooses to call for it, is a small, unpretending brown bird, not unlike the water-wagtail, but a little larger and stouter.

It was about Christmas-time that it achieved the triumph that I have just chronicled over the scepticism of science, and showed that there is more in the habits aud resources of even a little bird than is dreamed of in our proud philosophy.

The foregoing may be acceptable to those who take an interest in natural history. They will see in it but another instance of the wonderful adaptation of means to their end that pervades the realm of nature and maintains the balance of the universe.—T. SHEPSTONE, *Pietermaritzburg.*

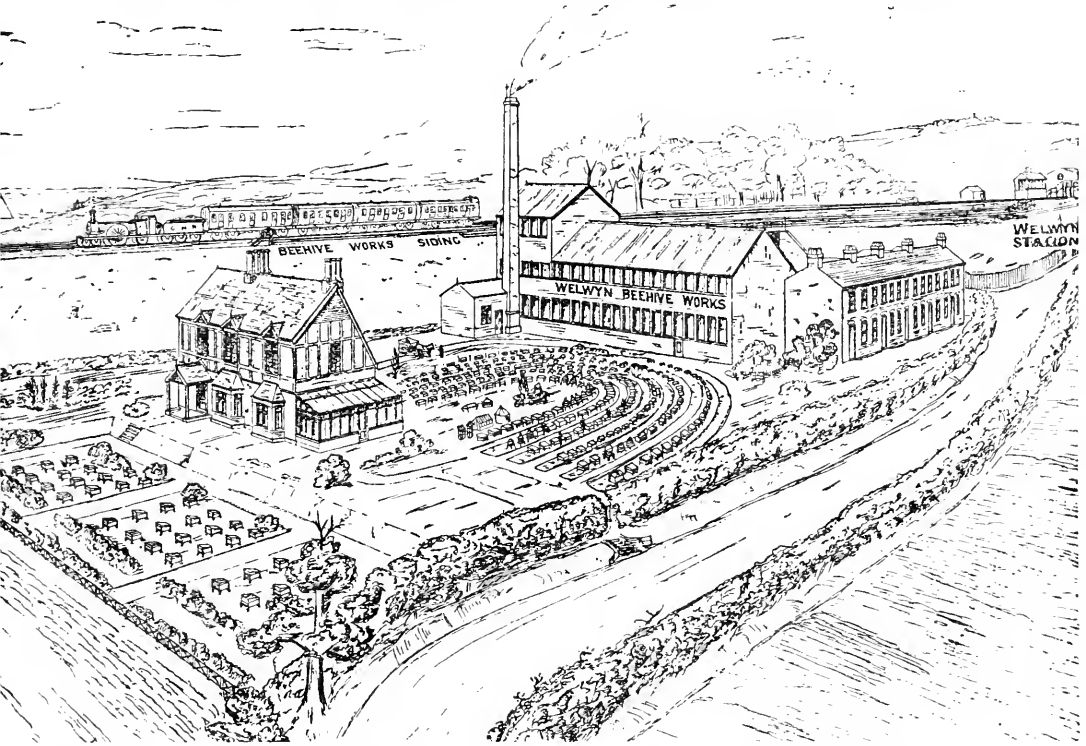
A VISIT TO A HIVE FACTORY AND APIARY.

A traveller going northward from King's Cross by the G.N.R., and gazing through the carriage window on his right, if he faces the engine, may, soon after passing Hatfield Station, have noticed a somewhat novel scene in front and below him as he passes over the viaduct on the south side of Welwyn Station.

It will no doubt puzzle the uninitiated to make

out what is meant by the continuous rows of little white structures—not unlike dog-kennels—arranged in formal fashion on the ground at the foot of the elevated railway embankment along which the train is speeding. Should the said traveller be a bee-man, we will warrant his rising in his seat at the unexpected sight, and remembering it again whenever he goes that way, for it is not often given to him to gaze on a hundred or more beehives at one time.

The place referred to is none other than the new beehive factory and apiary recently built and laid out by Mr. T. B. Blow, who is well known to readers of this *Journal* as a manufacturer of bee-appliances. Mr. Blow has been established in the village of Welwyn for over a dozen years, and finding the distance (about one and a half miles) from the station a considerable disadvantage in conducting his business, he determined to make a move nearer to the "rails" whenever a favourable chance occurred. After waiting some time an opportunity offered for acquiring a piece of land, some three or four acres in extent, and admirably adapted for the purpose, besides being situated so close to the station that a special siding has been made available for loading and unloading goods right in at the door of Mr. Blow's premises. In the same way visitors seem to be taken by train running directly to his very door, for, as on the occasion of our visit, Mr. Blow can leave his premises as the train stops and be almost in time to shake hands as one alights. This land was therefore purchased, and on it stands the establishment it is our present purpose to briefly describe. In doing so, we shall be materially assisted by the sketch below, which fairly represents the place and its surroundings.



As will be seen, the hives in the main portion of the apiary are arranged in horse-shoe fashion in rear of the comfortable dwelling-house occupied by the proprietor, and immediately in front of the windows, inside of which are ranged the carpenters' benches in the main building or workshop. It is intended eventually to keep about 200 stocks of bees, and at the time of our visit over 100 hives were already in position, while the ground was being rapidly prepared for accommodating the full number. The apiary will, however, not have either the crowded or monotonous appearance presented in the sketch, seeing that plenty of room is allowed between each hive, while the intervening spaces are filled up with fruit-trees. Roomy walks separating each row of hives also permit of comfort in passing about and and among them.

The lower ground in front of the dwelling-house is not quite prepared for the hives intended to occupy it, but work is being pushed forward with all speed, and some hundreds of fruit-trees have been planted, among which the hives shown will eventually stand.

We must congratulate Mr. Blow on the completion of the general scheme followed in laying out so large a piece of ground. He has, we

believe, been very largely his own surveyor, architect, and landscape gardener, and the result reflects much credit on his capacity in each department.

The building seen behind the rows of hives is, of course, the factory or workshop, a solidly built wooden erection with a corrugated iron roof. The portion contiguous to the railway embankment — where also stands the engine house — is three stories high, and is devoted to a special department of the business to be referred to later on; the other part consisting of only two floors, comprises the machine shop, carpenters' shop, and the office, on the ground floor; and the extensive stock-room or warehouse, which takes up the whole of the floor above. Then there is the store-yard for timber and heavy stock, situate on the further side of the factory nearest the station, but not shown in the sketch; the station itself being just seen at the right-hand top corner of the cut.

By this arrangement timber-laden trucks on the "siding" discharge their loads from the embankment above, down a stage or "shoot," either directly into the works or into the store-yard, as may be required, thus saving an immense amount of "handling" and consequent expense. To complete the "outside" description, it must be added that the row of buildings on the right of workshops are very superior five-roomed brick cottages, erected by Mr. Blow for the use of a portion of his workpeople.

(To be continued.)

Correspondence.

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AND TOADS.

[1467.] There is a pond where my bees go for water, and I lately noticed a toad pass over to where the bees were drinking on the side of pond. The toad's action was very much like that of a cat after a mouse. When it got within about six inches of a bee, it stopped and watched very intently, but did not attempt to catch it until the bee just took wing. Then the most interesting and, to me, puzzling part began. The toad did not jump after the bee, but simply reached out its neck, and putting out its long tongue with lightning rapidity, the bee seemed to be drawn into its mouth in an instant. Now, what was the power that drew the bee to the toad as a magnet? I was so interested that I watched him catch six bees, then exclaimed, "Enough, you brute!" Then, feeling interested, as the boy with the watch, I wanted to "see its inside;" so after dispatching I opened it, and found eleven bees and an insect which we call the "lady cow" about here, the insect that lives on the green fly, all apparently just swallowed; so, however much I may respect toads in the garden—and I think there is no doubt but they eat a lot of insects—I shall not tolerate them near the bees' watering-places.

Last week, when lifting some coverings from a bell-glass on top of skeps, I caught a very large moth, which a friend tells me was the Death's Head Moth. I fancy I have heard something about this moth visiting beehives. Do they eat bees?—J. Martin, *Bristol.*

[The Death's Head Moth consumes the honey in hives, but does not "eat bees."—Eds.]

NIGHTINGALES AND BEES.

[1468.] I should like to call the attention of bee-keepers to the fact that I have been very much annoyed by a nightingale (a cock bird) catching my bees for food. He would drop upon the alighting-board, and quickly snapping up a bee fly off with it in an instant. He was observed to catch fourteen bees in about half an hour. I have seen this same bird about the hives ever since April, but did not think his object was to feed on my bees. However, he made his last trip on Wednesday last, for I caught him in a trap when paying his usual visit. I am afraid we shall not get a very big honey harvest here this season, as our harvest comes from the white clover and now the fields of this are drying up for the want of rain. —Jesse Page, *Sussex, June 12th.*

[We certainly never counted the nightingale —"Sweet Philomel" of Shakespeare—among the enemies of bees. Perhaps other readers may have had similar experience to our correspondent, but it is quite new to us.—Eds.]

AN APPEAL.

[1469.] Will you permit me through the *Journal* and *Record* to appeal to my brother bee-keepers on behalf of the widow of H. Ringrose, late of Boughton, Northampton? I do not ask more than that they should send a section of honey to compete at the forthcoming Show at Northampton on August 7th. The object is a worthy one; no entrance fee is charged. The prizes offered are liberal, and many may not mind so much the honour of winning as of assisting in a kindly act of well-doing in a thoroughly deserving cause.

Harry Ringrose died November 4th, 1892, aged 32, leaving a widow, not quite destitute, but sadly over-burdened with five little children, one in arms. In 1879 he entered the service of the Rev. J. B. Wickes, of Boughton Rectory, Northampton. Miss Wickes was an ardent bee-keeper and subscriber to the *Journal* from its first number, but, to the regret of all, this good lady soon afterwards died, and, in consequence, the management of the bees fell on Ringrose. He began to take an interest in bees, purchased a swarm and stock, and was one of the first twelve who joined the Northants B.K.A. He was an exhibitor at the first show, and took

several prizes then and since. Mr. Hefford, the Secretary of the Northants B.K.A., will gladly supply all particulars if written to.—J. H. Truss, *Ufford Heath, Stamford.*

SOUTH DERBYSHIRE.

[1470.] The honey-flow has this week commenced with us, and on the 14th inst. increased activity at the entrance, and overcrowding of the supers, plainly indicated that, from some abundant source, honey was being carried in. That this source is white clover a ramble through the fields makes evident, but for want of rain, the clover heads are very small and soon wither.

The mowing of "seeds" and of clover has begun, and in another fortnight the rattle of the mowing machine will be general. Swarms are not abundant as yet, although at an apiary nine miles off, five out of fourteen stocks had swarmed a fortnight ago. The honey already harvested is of a good consistency, very dark, and of a pungent aromatic flavour, most agreeable to some palates. The chief sources have been fruit-blossoms and the hawthorn. Lime-trees, of which we have abundance, come into flower after the main crop of white clover. I do not find that my bees work on the limes vigorously every year, although the wild bees invariably do so, and an examination of the ground under the trees when they are in bloom, will reveal a great number of wild bees in a stupefied condition. The single dahlia, and sunflower, and no doubt other flowers, have the same soporific effects on the wild bee. Perhaps bee-keepers will observe the lime-trees this year, and report as to whether the hive bees work on them vigorously—and also notice at what period of the day they are most busy thereon. About here, we find that the lime gives us a greenish honey and also a greenish wax. My bees revel on *Nepeta Mussini*, whilst a few bushes of horehound, now in bloom, are all day long alive with bees. What a pity that I have not a few acres covered with the plant in bloom, so as to be supplied with genuine "Horehound honey," and not the sham article which the *B. B. J.* exposed a few years ago.—Gwenyn.

Echoes from the Hives.

Bedminster, Bristol, June 15th.—The season about here opened very early, and bees took to supers quickly. Swarms were general about the last week in April (one of the earliest I ever knew came off on the 18th), but since the fruit-bloom ended we have had scarcely any rain, and the pastures are dried up, and, except where sainfoin was, the bees have done almost nothing for the past month. During the last week, however, the white clover is coming out, and bees have been gathering from this; but it cannot last long if we do not get rain, as the blooms are very small. Swarming seems to be at an end now, as I have not heard of any since June came in, and see no signs of swarms in my apiaries. If you think it would be interesting to the readers of *Bee Journal*, I will give my experience of foul brood.—J. M., *Expert.*

[We are always glad to have bee-keepers give their experience of foul brood for publication in our pages when anything useful to readers is to be gained thereby.—Eds.]

Northampton, June 18th.—The second spell of drought still holds sway, only one slight shower, ·01 in., having fallen since 29th ult., and only ·04 in. since the 20th; nevertheless, bees have been doing very well. White clover has bloomed more profusely than anticipated in both meadows and pastures, and the limes on which the bees are now working are laden with bloom. The most striking features of the situation at the present moment are as follows:—The stationary condition of stocks as regards strength (they are no stronger than they were early in May, and few are up to full strength); persistence in putting surplus in brood nest, and reluctance to enter supers; almost continuous ejectment of young and immature drones; total cessation of swarming since the last week in April; total disappearance of wasps and humble-bees, while *Andrenidæ* are unusually numerous; universal prevalence of "honey-dew," trees of all sorts and sizes dripping with it, fortunately unnoticed by the bees; an unusual number of *grey* bees in flight. It is difficult to forecast the final results of so peculiar a season as the present. One thing is, however, certain—failure is out of the question.—E. B.

Queries and Replies.

[805.] *Extracting from Brood Chambers.*—As I live in a district which is not a very good one for honey, I have been thinking of extracting the whole of the honey out of the three hives I have in September, and then rapidly feeding up with syrup. If I were to do this would any injury be likely to affect the bees, and would it in any way interfere with their wintering safely?—T., *Manchester, June 15th.*

Reply.—As a general rule we strongly deprecate stripping brood chambers of their honey. It not seldom causes much upset, and turns out unsatisfactorily if feeding up is not well managed. We should in preference recommend the removal of, say, two—or at most, three—of the outer combs on each side, leaving about five or six combs in centre of brood nest untouched.

[806.] *A Lady Bee-keeper's Queries.*—1. Must all entrances be on a level with floor-board or would it be injurious to ventilation to have an entrance at back of hive, two inches higher than floor-board? Front entrance is level. This for a "Wells" hive. 2. Would a dead rat, found under the hive, be the cause of many bees dying in winter? The stock is now very

strong. 3. Is brood foundation at 3*d.* a sheet too cheap? I have found tin cans very handy feeders. I make two or three tiny holes with the point of a darning needle in the bottom of can, place above hole in quilt, lift off the lid of can and fill as often as wanted. 4. Is there any objection to tin?—B., *Renfrewshire.*

REPLY.—1. Yes; entrances should be level with hive floors. We don't see how an entrance could well be provided as proposed, but it would do no harm in hot weather if practicable. 2. Any foul decaying matter is of course unwholesome, but the death of the bees cannot be safely attributed to the rat. 3. Cheap it certainly is; but we should not like to say *too* cheap. 4. No.

[807.] *Bee-houses.* — I intend to erect against a high wall a plain wooden bee-house for four frame hives and four straw hives, and will be obliged by your recommending a plan or book for my guidance in making the house.—H. M., *Ross-shire.*

REPLY.—Refer to *B. J.* for March 19th and April 9, 1891, for short articles on bee-houses, or we will send both numbers for three stamps.

[808.] *Bee Paralysis.* — The bees in one of my best stocks seem very bad with paralysis; every morning a large number of bees are running about on the ground; they seem unable to rise and so die. I have given them salt and water to drink, but they seem to get no better. None, however, come out of the hive affected in this way after ten o'clock a.m. Please let me know the best I can do with them; they are a very strong lot and working in the supers well. —ASPATRIA, *June 12th.*

REPLY.—We do not think the bees are affected with what is known as "bee-paralysis." The trouble complained of is one that not seldom occurs in early summer in some hives. Watch the stock for a few days longer and if it does not get all right report to us again, but we think you will not have occasion to do so.

[809.] *Preserving Fruit in Honey.*—1. In the *B. B. J.* of May 4th, page 179, there is a recipe far preserving fruit with honey, which I carefully followed on Tuesday, using the "Climax" bottles, with air-tight glass tops, and fresh-picked strawberries; but fermentation set in, and yesterday (Thursday) the bottle burst. I managed to save the fruit, but lost all the honey. Can you tell me the cause of it fermenting? I bottled some last July in syrup, and they are as good to-day as when put in. I would rather have the honey if it would keep. Will you kindly let me know, through your *Journal*, what I ought to do? 2. I would like to know, if a communication were made through the perforated dummy of a Wells hive to the other side (which passage could be stopped at will), and opened when the bees are in a hiving mood, would it answer for the queen in all conditions?—M. Q. S., *Saintfield, June 15th.*

REPLY.—1. We think there must have been some tendency to fermentation in the honey used, or the fruit may not have been in good condition. 2. We do not quite follow your meaning in this query, or what the idea is of having a "communication" through the perforated dummy.

[810.] *Moving Bees.*—I am trying for a house about 300 yards from where I am now living. If I took my bees, say, one or two miles away for a week or two, then brought them back to fresh house, do you think they would return to the garden where I am living now?—T.B.

REPLY.—No. If the bees are moved as proposed *two miles* away for a fortnight, none will be lost when brought back to their new location.

[811.] *Wasps' Nests built on edge of Combs.*—I have enclosed to you some curious kind of formation built on pieces of worker comb. They were handed to me by a friend after being taken from a straw hive very recently. Will you kindly inform me, through your valued *Journal*, the meaning of the same? I may say, when the hive was examined it was partly filled with comb, but no bees. Trusting you will not think it too much trouble, as it is my first query, though a constant reader—WILLIAM KENDALL, *Cornwall, June 13th.*

REPLY.—The "curious formation" is in each case nothing more than a wasp's nest in course of formation. A queen-wasp has evidently taken possession of the skep, and after starting to build her nest on the edge of the comb in skep, has been disturbed, or perhaps killed; anyway, the nest has been deserted and left as found. It is not at all uncommon to find wasps' nests in and about empty hives.

[812.] *Admitting Queens to Supers in "Wells" Hives.*—If a separate super is put on a "Wells" hive (one compartment) because the bees in the other compartment are not ready for a super, and the queen lays in the super, is it right when the other compartment is ready for a super to put on the queen-excluder, and over it the super common to both compartments, inserting the brood and unfilled sections already put by the first lot of bees in the separate single super?—A. T. F., *Leeds.*

REPLY.—The super should be placed above both compartments, with a queen-excluder between it and the brood chambers below. You upset the system altogether by allowing the queens to enter supers.

[813.] *Raising Queens for Re-queening.* — 1. Can you tell me of a simple way of raising young queens to re-queen my bar-frame hives, and when to give them? I have read one or two articles on the subject, but they seem rather complicated for a person who has never even seen a nucleus hive. You have already kindly given me advice on several points, which I have found very useful. 2. Should my skeps throw out any second or third swarms, could I keep them in skeps till the autumn, and then unite to the bar-frames, and get some young queens in that way? I read the article

in *B. B. J.*, page 218, "After-Swarms—When to Cut Out Queen-cells," and tried to follow it with a swarm I had come out on June 2nd. midday on Saturday, 10th, at seven o'clock in the morning, I opened the old hive to cut out queen-cells, and found eight or ten already opened (they were all sealed up on 2nd), but could not find one queen. I could find no trace of the others, although the ground is clear in front of hive, and has a sloping flight-board. How was it the young queen was hatched so soon?—F. H., *Poole, Dorset, June 12th.*

Reply.—1. In such delicate operations as "timing" the hatching out of young queens, the greatest nicety is required, and any error in hours—not to say days—is fatal. The article you refer to was written by one of the ablest and best-known American queen-raisers, and Mr. Doolittle very clearly states, on page 218, "after the cell is sealed, the insect remains in the crysalis form *seven* days," so that the queens from cells you saw "all sealed up on the 2nd" were sure to be hatched out *eight* days later. In failing to save the young queens, the blame was yours, not Mr. Doolittle's. We think you might, with advantage, peruse Mr. Simmins' pamphlet, *Queen-rearing for Amateurs*, as advertised in our pages, as it would take up too much space in our reply column to give full details required. 2. Yes; you might secure nine lots of driven bees and young queen in the way you propose for uniting to your other bees in autumn after removing the old queens.

Bee Shows to Come.

July 19th to 21st.—Lincolnshire Agricultural Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose.

July (date not yet fixed).—Berks B. K. A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

July 26th, 27th, 28th.—Lancashire and Cheshire B.K.A., in connexion with the R.M.L. and N.L. Agricultural Society's show at Blackpool. Entries close July 1st. James Birch, Secretary, 3 Brunswick Street, Liverpool.

August 1st and 2nd.—Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries close June 24th. For lists apply Marshall Stephenson, Secretary, York.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 29th and 30th.—South of Scotland B.K.A. at Dumfries. Entries close August 25th. Wm. Wilson, Secretary, Acrehead House, Dumfries.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

John Tod.—Foul brood is a germ disease very destructive to bee-life, and, moreover, most infectious in character.

L. W. W. (Newry).—*Destroying Wasps' Nests.*—Pour a pint of paraffin in at the entrance, and stop the latter with a rag steeped in the liquid.

H. C. J. (Burton-on-Trent).—Honey sent has a strong flavour and aroma of hawthorn, but it is not a good sample for table use. There is an admixture of honey-dew in it along with some from fruit-trees (plum, &c.).

G. Hulbert.—Comb is badly affected with foul brood, and unless the stock is fairly strong the "best thing" will be to destroy it by burning the bees and combs, and disinfecting hive before using again. If the bees are worth saving at all they should be reduced to the condition of a swarm, and fed with medicated syrup while they are comb-building.

"Mac-Nale" (Glam.).—*Chilled Brood.*—The piece of comb sent contains "chilled" (not foul) brood.

M. P. (Larkhill, N. B.).—*Drone Brood in Worker Cells.*—The stock evidently has an unfertilised queen which will never produce any but drones. It will never do any good so long as she is at the head of it.

H. R.—Honey sent cannot be called a good sample for table use. There is more honey-dew in it than is desirable. We think it would sell better after granulation.

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WANTED.—Good 1 lb. Sections of '93 Honey, for Cash, in Glazed Boxes—either Tin or Cardboard. Address N., *Bee Journal* Office, 17 King William Street, W.C. A 63

HONEYCOMB in Sections Wanted.—Best quality and pale colour. Address T. SMITH & Co., Cambridge Street, Hyde Park. A 81

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

EXPERT desires Engagement for August. Full particulars to H. E. ATLEE, Bisham School, Great Marlow. A 83

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FOR SALE.—Eight Strong, Healthy Stocks of Bees in Frame Hives, all having Crates of Sections on. Address W. NORFOLK, Woodham Ferris, Chelmsford. A 87

I HAVE 4 Observatory Hives in good condition, will Exchange them for New Honey of good colour, Sections or Bottles. Address Mr. DANIEL, Croft Mill, Chorley, Lancashire. A 88

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RUN HONEY, Cans, White Clover, splendid quality, 7*d.* Also Sections, prime quality. Address DOWNER, Runcton, Chichester. A 90

FOR SALE.—Strong First Swarms of Bees, very cheap. Address M. BOWE, High Nest, Keswick. A 92

FOR SALE.—Bee Hive, Bar-frame, new, on Legs, with Double Walls, Movable Floor-boards, Span Roof, Porch, and Entrance Slides. Fitted with 10 Standard Frames and Dummy. 14s.; worth double. Address WEBB, 7 Beulah Place, Wood Green, N. A 93

FOR SALE.—150 lbs. Extracted White Clover Honey. What offers? Address H. COLLIER, Nayland, Colchester. A 94

BEE TENT on Hire. For terms apply to G. GUNSTON, Bradley Green, Wotton-under-Edge. 135

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Scottish Bee-keepers' Association.

EDINBURGH SUMMER SHOW.

THE THIRD SUMMER EXHIBITION will be held in connexion with the Great Show of the HIGHLAND and AGRICULTURAL SOCIETY, in the DEAN PARK, EDINBURGH, from **Tuesday**, the **25th**, to **Friday**, the **28th** of **July**—the Show of the Season. **Prizes over £50.** Nine Classes for Appliances; ample Classification for Honey in Supers and Sections; also for Extracted and Granulated Honey; Classes for Beeswax and Confectionery containing Honey. The best Judges available will award the Prizes. Schedules are now ready, and all Bee-keepers and Appliance Makers should write for one. Entries close on July 19th. Advertisements wanted for Show Catalogue, 1000 of which will be presented gratis to Visitors. Apply for full information to JOHN WISHART, Assistant Secretary, Market Place, Melrose.

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No. 575. Vol. XXI. N.S. 183.] JUNE 29, 1893. [*Published Weekly.*

Editorial, Notices, &c.

THE "ROYAL" SHOW AT CHESTER.

Amid the most favourable surroundings, the fifty-third annual exhibition of the Royal Agricultural Society of England took place at the ancient city of Chester. The show opened on Saturday, the 17th inst., closing on the following Friday, and it is a satisfactory task to record a complete success. Up to the afternoon of the 24th, the first of the two popular or "shilling" days, the weather was magnificent—a fact which told greatly to the advantage of the Society at the turnstiles. Had the concluding day of the show not been spoiled by a complete change of weather, which sadly diminished the number of visitors, the aggregate attendance for the week would have bid fair to rank among the very highest on record. As it was, and notwithstanding the wretchedly cold and wet final day of the show, the financial results will compare favourably with the best.

We have always considered it a most fortunate thing for the Society that the Prince of Wales takes so great an interest in its annual show. The presence of Royalty enlivens the interest of the people in it, and when the Duke of Westminster, as President for the year, had the opportunity of showing what the old city—"the Duke's town," as we have heard it called—could do to make the visit of the Prince and the other guests an enjoyable one, it was safe to assume that nothing that wealth or forethought could do to make the occasion memorable in the annals of the Society and of the city itself would be left undone.

Those who enjoyed the magnificent sight of the river fête on the night of the 20th will not soon forget it, and when the Prince of Wales declared that he had not seen anything finer in its way in any part of Europe, it will be taken for granted that Chester's display *was* worth seeing.

The Exhibits.

The appliance classes were by far the most interesting, both in number and variety of the two departments dividing the show; indeed, it was quite a disappointment to note that the early and promising beginning made in honey-gathering among Cheshire bee-keepers had produced so few exhibits from local men. No doubt the early date for closing entries (May 1st) kept many from entering; anyway we may be quite sure that a very different display would have been made could they have foretold that honey would be so plentiful in the immediate vicinity that the bees in of one of the observatory hives staged were rapidly filling and sealing their combs while the show was in progress.

Appliances.

Class 328. *Collections of Hives and Appliances.*—The four exhibits staged in this important class made up a display extending the whole length of the shedding in which the bee-department was housed, and included samples of well-made goods in general use, as well as of most of the novelties recently brought forward. Mr. W. P. Meadows well deserved first place, his exhibit comprising a large collection of goods in the "extras" allowed beyond the particular articles specified in the schedule. Among the novelties we noticed was a capital swarm-box—one of the best things of its kind we have yet seen. In it ventilation is secured by a number of very narrow slits or "cuts" in the wood, extending over almost the whole surface of the box. The floor is also capitally arranged for gathering in the flying bees of the swarm, and the box can be held below the bees when shaking them in as readily as a skep. Mr. Meadows has also an arrangement for the self-hiving of swarms on the lateral plan, of which we shall hope to have some reports when it has been subject to practical trial. Mr. Dixon's second-prize collection was also a good one, smaller than the first, but an interesting exhibit. Here, also, among some good hives, was included a self-hiving arrangement, of which we shall have occasion to say something later. By some oversight on Mr. Overton's part, his collection of goods was rendered ineligible for the competition, owing to non-compliance with the regulations of the schedule. Mr. Rose, of Liverpool, sent a representative collection of useful things, but the hives were, as a rule, too heavily built.

Class 329. *Best Observatory Hive stocked with Bees and Queen.*—Only two exhibits, both nicely stocked, were staged in this class, Mr. W. Dixon taking first with a three-frame hive of native bees. Mr. Overton, who was placed second, owed his position to some haste or carelessness in hanging the combs in the hive. His bees and their queen were certainly finer than the first-prize lot, and should have been placed before the others but for the fault we have referred to.

Class 330. *Best and most complete Hive for General Use.*—Nine exhibits were staged in this class, including three "Wells" hives, the manufacturers of which surely overlooked the fact that hives of this class were clearly ineligible for the competition. However good the "Wells" hive may be for a particular system, it is obviously not one for "general use," and so we suppose the judges had no option but passing them over. The proper place for these hives was clearly Class 345. Of the other exhibits it may be said that the first and second prizes, taken respectively by Mr. C. Redshaw and Messrs. George Neighbour & Sons, in the order named, were, so far as we could remember, exact counterparts of the hives shown by the same exhibitors at Warwick last year. Both had outer cases, and for completeness of arrangements for supering, good material, and workmanship, would be difficult to excel. Mr. Meadows took third for a good hive, also having an outer case and good supering facilities. This hive was also adapted for the self-hiving arrangement already referred to as having yet to be tested.

It seems to be now a generally recognised fact that heavy, cumbersome hives—hardly portable even when empty—are things of the past, and that everything movable about hives should be as light as possible, consistent with strength and protection to the bees.

Class 331. *Most Complete inexpensive Hive for Cottagers' Use.*—In this class Mr. Redshaw secured both first and second prizes; first, for his cottagers' hive adapted for taking to the moors, for which, if we remember rightly, he was awarded third prize at Warwick last year, when it was priced 14*s.* Now, however, it is reduced to 10*s.* 6*d.*, without seriously impairing its efficiency, and this makes it, to our mind, a model cottagers' hive. We think that *price* should be a most important item for manufacturers to consider when framing a hive for this class, 15*s.* being, in our opinion, too high a sum for what should be primarily a cottager's hive. Mr. Redshaw's second-prize hive was also a good one at the figure (12*s.* 6*d.*). Messrs. Neighbours' otherwise excellent hive was severely handicapped by its price (15*s.*), and only got third prize. The high commend given to Mr. Meadows' hive at 12*s.* 6*d.* was well merited.

Class 332. *Best Honey Extractor.*—Never content while improvement is possible, Mr. Meadows has again made an advance in the make of his machines for honey-extracting. His latest feature in the "Raynor" consists of a much better cage than he has hitherto turned out. The frame is of light steel, and so formed as to do away with the tin backing formerly used, while avoiding all risks of the "rests" on which the frames lie breaking away. Instead of using solder and tin in parts, the frame is bolted together, and consequently very durable. A non-splashing arrangement, consisting of semi-circular tin covers, secured to the top of cage, and which revolve along with it, together with chain-gearing and several other improvements, complete an excellent machine, which easily took first prize, the second being awarded to the same maker for a new "Guinea Extractor" with open steel cage.

Class 333. *Best pair of Section Racks.*—Six exhibits were staged, Messrs. George Neighbour & Sons and Mr. Redshaw receiving equal firsts for excellent pairs of racks as nearly alike as they well could be, and Mr. Meadows third. A high commend was also given to a pair of good racks staged by Mr. J. Trebble.

Class 334. *Best Rapid Feeder.*—Nothing new was staged in this style of feeders, the makers apparently considering that their exhibits of last year could not be improved on.

Class 335. *Best and most perfect Bingham Smoker of British manufacture* (special prize offered by Mr. T. W. Cowan).—Six smokers were sent for competition in this class, but two failed in not conforming to the conditions laid down; in fact, they were not "Binghams" at all, but smokers of the ordinary type made in this country. But before the intentions of the donor in offering this special prize can be fully carried out, we think a little more definition in the wording of the schedule will be necessary. As it was, the judges were not quite unanimous in the awards made, and we trust to see the same class in the schedule of next year's "Royal," when no doubt the views of the donor of the prizes will be made clear.

Our report of the remaining classes, 336 to 345, will appear in our next. In the meantime we append the list of awards in the first eight classes.

Prize List.

Hives and Appliances.

Class 328.—For the best collection of hives and appliances. First, W. P. Meadows, Syston, Leicester; second, W. Dixon, Beckett Street, Leeds; highly commended, G. Rose, Great Charlotte Street, Liverpool, and C. T. Overton, Crawley, Sussex.

Class 329.—For the best observatory hive stocked with bees and queen. First, W. Dixon; second, C. T. Overton.

Class 330.—For the best and most complete frame hive for general use.—First, C. Redshaw, South Wigston, Leicester; second, G. Neighbour & Sons, High Holborn, London; third, W. P. Meadows.

Class 331.—Most complete and inexpensive frame hive for cottager's use. First and second, C. Redshaw; third, G. Neighbour & Sons; highly commended, W. P. Meadows.

Class 332.—Best honey extractor. First and second, W. P. Meadows.

Class 333.—Best pair of section racks. Equal first, C. Redshaw and G. Neighbour & Sons; third, W. P. Meadows; highly commended, J. Trebble, Romansleigh, South Molton.

Class 334.—Best rapid feeder. First, W. P. Meadows; second, G. Neighbour & Sons; highly commended, C. Redshaw and W. P. Meadows.

Class 335.—Best Bingham smoker of British

manufacture. First, C. T. Overton; second, W. P. Meadows; highly commended, G. Neighbour & Sons.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

	£	s.	d.
Amount already acknowledged ...	14	11	0
Walter Martin	1	1	0
T. B. Blow	1	1	0
W. P. Meadows... ...	0	15	0
C. N. Abbott	0	10	6
Abbott Bros.	0	10	6
C. T. Overton	0	10	0
W. Dixon	0	10	0
Geo. Rose	0	10	0
C. Redshaw	0	5	0
T. D. Schofield	0	5	0
W. J. Anstey	0	2	0
T. & W. Moore	0	1	0
A. Stringer and J. Wrench	0	1	0

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The Derbyshire County Council, having set apart a sum of money for the promotion of technical instruction in bee-keeping, arrangements have been made with the Derbyshire Bee-keepers' Association for a course of lectures on the subject in different parts of the county. One of the series was delivered on the 20th inst. at the Boys' Schoolroom, Winshill, by Mr. T.W. Jones, who recently gained a first-class certificate of the B.B.K.A. Mr. E. D. Salt, of Newton Solney, presided in the unavoidable absence of Mr. Daniel, and there was a numerous attendance. The Chairman, in opening the proceedings, referred to the great assistance Mr. Daniel had rendered to the bee-keepers in that neighbourhood, and the willingness with which he imparted instruction. Mr. Salt then went on to observe that the bee set us a wonderful lesson of industry, and its cultivation was a most interesting occupation to engage in, as well as a source of profit. From his own experience he believed it was profitable, and if they only laid out a little money on necessary appliances at the beginning, the bees would soon cover the outlay.

The lecturer, after explaining the object the D.B.K.A. had in sending him to lecture at Winshill, said they would find that bee-keeping could be made a profitable hobby—for it was a hobby. In olden times, and even now in many villages, the old-fashioned straw skep was still in use, but the great fault of this system was that as soon as the honey harvest commenced the bees swarmed for want of room. The bar-framed hive, and the advantages gained by its use in conjunction with the modern system of bee-keeping, were then explained in copious detail, and in concluding this part of the lecture Mr. Jones said that to his own knowledge, not far from that neighbourhood, in a good season like the present one, as many as a hundred sections had been filled by one hive. The lecturer then explained, in a most lucid and instructive manner, the well-known series of lantern slides prepared under the auspices of the B.B.K.A.

On the motion of the Chairman, the lecturer was heartily thanked, and the proceedings terminated in the usual way.

SOUTH OF SCOTLAND B.K.A.

Meeting at Stewart Hall, Dumfries.

By invitation of its respected President, Thomas K. Newbigging, Esq., the members of the above Association, along with others interested in the bee industry, met together on the afternoon of Saturday, the 17th inst., at Stewart Hall, when they had an opportunity of inspecting one of the finest and best-equipped apiaries in the South of Scotland. The hives were each in turn examined, and found in first-class condition. Supers were being filled in every case, some of the hives having forty pounds of honey ready for removal. Some very fine glass supers were noticed, and beautifully filled sections of honey-comb were taken off at the time. As a practical demonstration, the party also had the opportunity of witnessing a swarm issue, which was successfully secured. As there were some fine supers on the stock which threw the swarm, which Mr. Newbigging was desirous to have filled, the bees were returned after the old queen had been captured. It was a marvel to some of those present to see how the queen could be descried and picked out from such a large quantity of bees.

After the company had completed their inspection of the apiary, a business meeting of the Association was formed to consider matters connected with the forthcoming Honey Show, as announced in our advertisement in your paper. It was unanimously agreed to invite Colonel Bennett, of Alloway Park, Ayr, to accept the post of Judge, and it is hoped that those wishing to compete, who are not already members, will see their way to enrol themselves at once. All members of the Association will be entitled to a free admission to the Flower Show. The company were hospitably entertained by Mr. Newbigging, and he was accorded an enthusiastic vote of thanks for the afternoon's pleasurable and profitable entertainment.—(*Communicated*)

HOW BEE-KEEPING IS TAUGHT.

For the information of Associations having similar work in contemplation, we reprint the bill issued in the several districts covered to show how a week was recently spent by those

in charge of the bee-van of the Herefordshire B. K. A. The announcement reads as follows:—

"INSTRUCTION IN BEE-KEEPING (under grant from Herefordshire County Council).—The bee-van of the Herefordshire Bee-keepers' Association will pass through this district under charge of the Association Expert, Mr. Meadham, who will give practical instruction from the platform of the van each evening at 7.30 p.m., demonstrating the best methods of bee-keeping. A short instructive lecture each evening at 8 30 p.m., illustrated with magic lantern photographs. An afternoon demonstration with bees will be given wherever practicable, an efficient protecting screen being erected. Monday, June 5th, Kingstone: demonstration at four o'clock in garden at Whitfield. Tuesday, June 6th, Wormbridge: demonstration at four o'clock in Mr. Sayce's garden. Wednesday, June 7th, Baggallydiatt. Thursday, June 8th, Abbeydore: demonstration at four o'clock in Captain Freke Lewis's garden. Friday, June 9th, Ewias Harold: demonstration at four o'clock in Mr. George's garden. Saturday, June 10th, Pandy: demonstration at four o'clock in garden at Trewyn. The Expert is also instructed to render practical advice and assistance as far as possible to all bee-keepers on or near the line of route. All instruction given on this tour is absolutely free and open to all, and no fees are permitted."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1471.] The weather still continues dry, though much cooler than it was in the previous week. Before the week is out, we shall have completed our fourth calendar month of dry weather, unless we get the much-desired rain during the remaining days of June. Statisticians say we have to go back to '44 for a parallel to the present drought. The year '45 following was a good one for hay. This is a crumb of comfort for bee-keepers, especially so if history repeats itself. At present in agricultural districts the outlook is anything but promising for a good honey season in 1894, as so little of the spring-sown grass-seeds have germinated and where gemination has taken place the drought has scorched the life out of the tender plants as though they had been in a furnace.

There have been some instructive articles in *Great Thoughts* recently on the antennæ of the bee by Mr. Jas. Crowther; also on the eye of the bee and structure of the cells, which are well worth reading.

I can fully endorse all Mr. "Useful Hints" says on page 231 *re* Mr. Meadows' bee-escape, which is styled the "B-off." Crates full of bees and honey, placed on the super-clearer at seven to eight p.m., were quite cleared next morning of every bee. I lifted the crate off the hive very carefully on to the board in which I had fitted the escape, then placed the crate of sections on board back on top of the crate below this crate (perhaps half full of combs, bees, and honey). This, I think, was a fair test, and every time the crate of sections was cleared of every bee. The escape-board, or the board on which I fitted the "B-off," was one of my old-style four-cane escape-boards, which has answered the purpose fairly well in past years; but the action of the spring escapes, either the "B-off" of Mr. Meadows' make, or the Porter bee-escape, clears every bee out every time without a failure. I am fully convinced that the bee-escape is come to stay, and will prove in other hands, as it has in mine, one of the most useful appliances in the apiary. The boards can be made by any handy man; but, though I consider myself handy in the use of carpenter's tools, I have employed Mr. Flood, of Reading, to make my boards, and some of last year's are fitted with the Porter spring bee-escape. This escape is A 1, though somewhat dearer than the Meadows' "B-off." Then, another use to which the board can be put after the honey is taken from the hive is this: after the unfinished sections are put through the extractor, and replaced in the crate, remove the crate from the escape-board (the Porter simply drops into an oval hole), and then the hole will form a way for the bees into the crate of extracted sections, to clear them out before putting them away for winter.

Our Scottish friends have prepared an attractive schedule for their summer show at Edinburgh next month. I hope they may have a good response to their offers of the many good things in the prize list, and full entries in all classes. The "miscellanous" includes confectionery, but where will the English or Irish housewives' chance come in when competing in "the land o' cakes?" The closing item in the schedule, a special prize, commends itself as emanating from some canny Scotch cranium, probably from friend Ross's, who offers a first-class hive to the member of the S. B. K. A. who enrols the largest number of new members during the show. English Associations, take note! Couldn't we manage to add to our numbers by similar means?

Did I go to the Royal Show at Chester? Yes, and though we bee-keepers did not hob-nob with Royalty, we were within shoulder-

rubbing distance of our future king. Starting from Didcot Junction on the Great Western line, I was on the *qui vive* for bees, hives, and forage all the way. The parched appearance of fields and meadows till after passing through the Black Country was very noticeable; hayricks few and far between, a few fields here and there in swath or cock ready for cartage, was all the evidence we had of the hay crop of 1893. Meadows brown with the cattle still nibbling very close to the ground for food that could not satisfy their appetites, spring corn in many fields only a few inches high, though struggling into ear. After passing Wolverhampton things began to mend; even at Albrighton, the first little station, the difference was marked, and in every pasture white clover heads were blooming in abundance, only awaiting the busy bee to gather the sweets; but judging by the few hives in proximity to the railway, the thought presents itself that few bees are kept in the district. But as we travelled northwards, the extension of forage was remarkable. Oh, what an El Dorado for bees must the county of Cheshire be! No wonder, said I to myself, the Cheshire Association beat all other county associations at the Colonial in '86. I must not dilate on the many places of interest we passed, or on the grand and picturesque views. Llangollen and the Welsh mountains in the distance, brought to memory the song of the shepherd to the "maid of Llangollen." The show at Chester I leave to abler pens to describe; suffice it to say I met old friends I had not seen since the Royal Show at Windsor, notably one of the pioneers of the craft, Mr. W. Carr, of Manchester; also Messrs. Blow, Dixon, Redshaw, Meadows, Green, Schofield, and Donbavand, Mr. Lees McClure, Mr. W. B. Carr, Mr. Garratt, and others; also our old friend Mr. Huckle, to whom we all wish renewed health and strength.—W. Woodley, *World's End, Newbury.*

BEE-KEEPING IN NEW ZEALAND.

[1472.] I am a native of Cumberland, England, and since my arrival in this colony have often thought of writing to the *B. B. J.*, to inform its readers what I think of this country for keeping bees, and also to ask if it would pay to export the honey home—say, in sixty-pound tins—if some reliable person, as agent, would buy it, and put it up to sell in one or two-pound receptacles, best suited for market? If any one in the United Kingdom would undertake an agency, I believe it would pay them very well. I arrived in Canterbury in December last, and, having a thorough knowledge of bee-keeping from a long experience in England, I got a job extracting with a bee and fruit farmer at Tia Tapu, near Christchurch. He was a jolly good sort, an Englishman, and it was a great pleasure to me to land in a little world of bees after between seven and eight weeks of ocean life. He works on the American systems, which I will explain at some future time, and thinks eighty pounds per hive a fair average. He had at that time about 150 hives, Langstroth pattern. The bees were swarming every day at an awful rate, through want of room; he had not started with the extractor soon enough, so the bees were far in advance of him with their work. He tells me he can get 4½*d.* wholesale, 6*d.* retail, 8*d.* for well-finished one-pound sections. I used to think, when at home, that no honey could beat us for quality; the foreign stuff I used to regard as poisonous; would not have dared to buy it to feed my bees in autumn. But New Zealand, I'm glad to say, can boast of better clover honey, of grand aromatic flavour, than ever I tasted in the old country. It is so thick when you run it from one receptacle to another it will lay like a coiled serpent. I am not afraid to state that I will guarantee it will stand the test as to quality with any country's produce in the world.

I am sorry to say that foul brood is very bad in some parts. A lot of bees clear out to the bush, and colonies dying out with foul brood will be robbed by others, and so spread the disease. I have taken several colonies from fences this summer in grand condition—healthy. It is an every-day occurrence to hear of swarms overhead; they camp in holes in the banks of a creek or fence, and fill it with honey and brood. My experience here is short yet, but if God spares me, I will let you know more of bee-keeping here. If any one interested will write to me, the undersigned, I will be glad to answer questions. I may say, in conclusion, that there are a good many working men here in these colonies in a depressed state for want of work. They have, of course, no home, and very little or no money is too often the case; men, strong and willing to work, on the road, with their swag, blankets, &c. on their backs, tramping about from station to station, begging a feed and a shakedown for the night, only to set off in the morning, hardly knowing where they are going or where the next meal is to come from. On the other hand, men with a little capital, who get a right start and persevere, do very well. We have here a beautiful climate, very healthy, clear air on the hottest days, and it will suit any one in search of health. Wishing you every success, at present and in future,—F. Branthwaite, *Long Beach, Ashburton, Canterbury, New Zealand, April 30th*, 1893.

[We shall be very pleased to have a line occasionally on bee-keeping in New Zealand from our correspondent as an old reader of our pages. It may, perhaps, surprise him to know that the *Bee Journal* is sent in bulk every week to the Otago B. K. A., Dunedin, N.Z.—Eds.]

SPOILED HONEY.

[1473.] I have to-day forwarded a sample of honey extracted from a shallow-frame super a few days ago, and I shall be glad to have your opinion upon it. The honey appears to me to

be about the worst sample, both in colour and flavour, that I have ever had. This result is the more disappointing as the season bids fair to be the best we have experienced in this district (West Sussex) since 1887. I am quite unable to state the source from which the honey was obtained as, owing to the drought, there has been little or no white clover, and the super was filled before the limes were in flower. I extracted from the same super three weeks ago, and obtained twenty pounds of beautiful golden honey of capital flavour, a complete contrast to the present yield. I noticed that, during May, the meadows laid up for hay were purple with red clover, which appeared to bloom in much greater profusion than I have ever before noticed it. At the same time the bees were bringing in honey in large quantities. Do you think it is likely that the drought so dwarfed the clover heads as to permit our bees to work it?

I was unable at the time to inspect the red clover, but I noticed them hard at work on some trifolium, which was, however, a poor plant through the dry weather. Swarms have been very few and far between with us. In my own and two neighbouring apiaries, which together muster about thirty stocks, there has not been one, so far as we know.

Apologising for troubling you at such length —W. J. S., *Petworth, June 23rd.*

[The honey sent contains a large admixture of honey-dew.—EDS.]

STRAY SWARMS JOINING A FULL STOCK.

[1474.] I was told of a cottage where three stray swarms had taken possession of the roof. One lot had been there for three weeks, the others came on Friday, the 16th inst. The bees were clustered at each side of the house outside, and, passing through some cracks in walls, got under the floor of a sleeping-room, the wood of which was so old that the bees got inside in hundreds, to the great alarm of the occupants, who retreated downstairs. The tenant offered me the bees for taking, so I made the journey last night for the purpose of securing them. On examining the place, however, I found that, excepting a few hundreds scattered here and there all over the house, the bees had decamped.

Now comes the strange part of the affair. One of my stocks was doing fairly well, so a fortnight back I gave them a super containing nine shallow frames, of which they had worked out one or two. Yesterday morning being very warm, I thought to give the bees air by raising the quilt a little at one end; the roof, also, I raised a little for the same purpose. Well, on my return home to-night I find that the hive is simply jammed up everywhere with bees, showing, as I think, that the main part of the stray swarm from the cottage roof had joined my stock of bees, although there was an empty hive standing close to the already populated one. Is not this very strange? and what should I do to make room for the bees—give sections, or what?—THOS. ADAM, *Cardiff, June 20th.*

[Bees do strange things sometimes, for which no reason can be assigned. However, by all means give either sections or other surplus chambers, to allow all the bees a full chance of getting inside the hive for working.—EDS.]

SCARCITY OF SWARMS AND DRONES.

[1475.] I am surprised at the paragraph in "Useful Hints" and in Mr. Sharp's letter (1461, p. 234) in which reference is made to the scarcity of swarms and drones. From my apiary of about one hundred stocks I have supplied during May and June nearly fifty swarms, and my young queens are mating much more quickly than usual, thus proving what can be seen any day, that I have plenty of drones. I venture to think that even such experienced bee-keepers as yourselves and Mr. Sharp must have overlooked the absolute necessity for slow feeding every day during April on which bees gathered no honey. It is a curious coincidence that swarms should this year again be slow in coming off in Huntingdonshire, as some years ago I suffered much loss from not receiving swarms from that county until many weeks later than they were promised, although in other counties bees were swarming freely.

I have kept bees for many years, and I am more convinced than ever that to have really good stocks they must be re-queened every year; and for my part of the country, at any rate, there is nothing to beat our own pure native English bee, especially if great pains are taken to rear queens and drones in the best stocks.—EDWARD J. GIBBINS, *Neath.*

[Referring to our correspondent's remark as to our having "overlooked the absolute necessity for slow feeding in April," that operation may be necessary where swarms are wanted for sale; but, as a matter of fact, our bees were storing surplus honey in that month.—EDS.]

THE SEASON IN WEST SUFFOLK.

[1476.] We in West Suffolk are enjoying the glorious weather mentioned in "Useful Hints" of June 15th. It is simply marvellous the way honey is coming in. For knowledge of how to work bees to profit, I must thank Mr. W. B. Webster in the first place, and the Editors of *B.J.* in second, whose writings I carefully study and follow. My hives (seven in number) are doing fine. One has completed four shallow boxes, and is well on with the fifth; two others, three; two others, two; and one, one box only. One hive working on section has one crate nearly finished, and working hard in second. I always take boxes off after 6 p.m., extract, and replace same evening if possible, or early next morning. We have heard of very few swarms at present; I have none myself. I am surrounded with

white-clover fields, which have been in full bloom these three weeks, and is so short that mowing machines pass over and leave it standing. One thing I cannot understand: two of my neighbours have very little surplus stored. Both of them have years of experience; perhaps you can throw some light on this? Thanks for past instructions in *B. J.*—H. C., *Colchester.*

[If your neighbours' bees are healthy, the failure to gather surplus probably arises from the stocks being headed by old queens.—EDS.]

NIGHTINGALES AND BEES.

[1477.] I can fully endorse Mr. Jesse Page's remarks (1468) under above heading. Two old birds have been feeding almost entirely, I believe, upon my bees ever since April. I have refrained up to the present from taking my revenge, but now four young ones have come upon the scene, the slaughter of the "innocents" is quite appalling, and I must, though reluctantly, take strong measures to prevent further mischief.

I have taken three section crates from one hive, but many sections have been spoilt through the "honey-dew."—C. B., *Pulboro'.*

[1478.] In reference to 1468, p. 246, of last week's issue of *B.J. re* nightingales, I beg to say that I have had similar experience with nightingales, as I live among bushes, but have never seen them take live bees. I have, however, often noticed them amongst the hives, and have seen them in the early morning picking up any grubs that had been cast out during the night by the bees, especially about the time they would be feeding their young. I first noticed it some years ago, but thought it was the case elsewhere with bee-keepers. I saw a young nightingale close to my hives yesterday (Sunday). I have no doubt but what they do take the live bees at times, when short of other insect food.—T. GILES, *Salisbury, June 26th.*

THE WELLS SYSTEM IN SCOTLAND.

[1479.] As this seems to me to be an extraordinary season, I may as well tell you the state of two of my hives at the present moment. They are on the "Wells" plan. You would call them one hive. The double hive has thirty standard frames, fifteen in each division. There are sections all along the top holding eighty pounds of honey when full. The "Wells" bees have an entrance at each end, and enter by means of a porch: but at the end, as it were, of the porch they mostly fly right in. Another hive has its entrance fifteen inches away, also entering by a porch. These two porches form what I may call two entrance chambers, having an opening in the division. The two hives face one another. The bees of each end of the Wells hive have appropriated the hives facing their respective entrances. I have thought the old queens might have gone across, but the bees are simply depositing honey. These two hives hold each nine standard frames. All are filling rapidly. Each division has therefore twenty-four standard frames and section capacity for forty pounds. I shall probably in a day or two give each outside hive more sections, holding twenty-four to twenty-eight pounds each. The hives are in a beehouse. The bees have not yet swarmed. There are not many drones. The four entrance chambers have crowds of bees in them, and are covered with glass, so I can see all that goes on. I do not know that this is anything out of the way, but I give it, hoping that other bee-keepers may tell their experience.—T. McC., *Ecclefechan, N.B., June 17th.*

SELLING SWARMS.

[1480.] Will you kindly allow me space in *B. B. J.* to inform intending buyers of bees that I have accepted orders and delivered all the swarms (about fifty) which I can spare this season? I have received so many inquiries in response to my advertisements in your papers that I fear some may have been overlooked during my absence from home. I am increasing my stocks from 100 to 150, and therefore hope next season to be able to supply all those who wish to try pure English bees.—EDWARD J. GIBBINS, *Neath, June 23rd.*

Queries and Replies.

[814.] *Transferring Bees.*—I purchased a swarm of bees in Nottingham, 150 miles away, in a swarm box, and as I had no hive I left them on three frames in the box. They have been working seven days now and having got a bar-frame hive ready I ask your advice as to the best way of putting them in the hive.—A DESOLATE BEE-KEEPER, *Baxenden.*

REPLY.—It was very unwise to leave the bees for seven days on so few as three frames. However, if the latter are correct standard size and have straight combs built in them they should be lifted into the new hive (bees and all) at once. There is no difficulty in this operation, nothing beyond a little smoke being used in doing it.

[815.] *Bees building Comb outside Hive.*—I shall be glad of information respecting the following: The bees have built comb under the floor-board and have also filled up the porch with comb upon which they may be seen clustering in the enclosed photograph. 1. Is the occurrence very unusual? 2. What is the probable cause? 3. The gardener suspects the stock is queenless, as no swarms have issued this year. Is this so? Some pollen has been stored in the comb under the hive, which consists of a cheese-box enclosed in a wooden cover packed with cork-dust. It had a

glass super which has since been removed full and been replaced by another. — A. V., *Ramsgate, June 21st.*

REPLY.—1. If bees are cramped for room inside their hive, they not seldom fill combs outside in such places as shown in photo. 2. (*a*) Want of room for storage; (*b*) insufficient ventilation, which causes the bees while honey-laden to cluster outside for air, and while so clustering wax is formed and combs are built. 3. No. There would be little storing or comb-building if the stock was queenless.

[816.] *Re-queening Stocks.*—I have three hives, and as the queens are three and four years old, I wish to re-queen them; will you please tell me will the following plan do—viz., about the middle of July or first week in August, destroy the old queen in each hive, and allow each stock to raise a new queen? Or should I, about the same date, destroy the queen of what I may call my best stock, and allow that hive only to raise the queens for the other stocks, and as soon as the queen-cells are sealed over, take out the queens from the other hives, and put in a frame with queen-cell from best stock? 2. In the event of the frames in the brood chamber, during the honey-flow, becoming too full with honey, thereby contracting the room for egg-laying, should I, when putting on a fresh rack of sections, take out one or two of the frames in brood chamber, extract the honey, and replace again? 3. When wiring in sheets of foundation, should the wire be used single or double, as per specimen enclosed? — DORSET BEE-KEEPER, *June 22nd.*

REPLY.—1. The latter of the two plans is most workable, but the queens of the second and third stocks must be removed three or four days before inserting queen-cells, or they may be destroyed by the bees to which they are given. 2. If combs are found in brood chamber full of honey, they may, with advantage, be put through the extractor as proposed. 3. Use wire of proper thickness (No. 30) singly; not double as specimen.

[817.] On June 17th one of my hives having a crate of sections about half full of honey, I placed another crate underneath it with foundation in each section as starters; for the next three days there was about a double handful of bees clustered outside the entrance, and they seemed to do little or no work at all at that hive, but now they are working as hard as they can. If you will kindly state the cause of the first condition of idleness and clustering outside of the bees, it will enlighten me very much.—E. W., *Kidderminster, June 24th.*

REPLY.—We can offer no other reason for the bees clustering out except supposing that they had not at once taken possession of the second rack of sections offered them; when they did so, work went on merrily enough.

[818.] *Earwigs in Hives.*—There being more earwigs about and inside my hives than I think either good or customary, will you please inform me (1) whether they are hurtful to the bees, and (2) what is the best way to get rid of them?—W. J., *Hainton, June 24th.*

REPLY.—1. By "inside the hives," it can hardly be meant that the bees have allowed earwigs to take possession of the brood nest. If that were so, there must be something radically wrong with the bees, otherwise they would permit no such intrusion. Earwigs do no actual harm to bees, but they are uncleanly things to have about hives. 2. As they only harbour about hives for shade, and congregate in families, they may be brushed down into a bucket of water or have their nesting-places smeared with carbolic acid.

[819.] *Preventing Swarming.*—1. What are the best measures to take for the prevention of swarming? 2. If I cut out all the queen-cells, as you recommend (800, p. 237), would there not be a danger of the stock becoming queenless, through the queen dying, and having no queen to take her place? 3. Is it possible to return a swarm to the hive from which it issued? 4. You say (800, p. 237) that a queen should never be kept after her second year. Do you mean by this that I must *re-queen* every third year, or can I trust the bees to do this as often as necessary?—APIS.

REPLY.—Giving timely room, ventilation, and shade are the "measures" all should adopt; for the rest, there are scores of devices, all of which are supposed to either prevent swarming or lessen the chances of it. How far they succeed is matter of opinion. 2. Our reply on p. 237 was in answer to a query, but had no reference as to cutting out queen-cells, and should not be referred to as something we "recommend." Of course, if all queen-cells are removed as formed, there will be danger in the direction indicated. 3. It is not only possible, but swarms are frequently returned. 4. We do not say that you *must* re-queen every third year, but it is good policy to do so, as young queens are the main means of bringing success to an apiary. The bees themselves will not re-queen "as often as necessary."

[820.] *Driven Bees and "Wells" Hives.*—I anticipate driving the bees from two straw skeps at Michaelmas. Would they take to a "Wells" hive and winter satisfactorily if fed up?—E. H. H., *Bromsgrove.*

REPLY.—Bees driven so late as Michaelmas will not be likely to do well unless put on ready-built combs and fed up rapidly. In any case it is not the best start to make with a "Wells" hive.

[821.] *Time for Supering.*—I hived a swarm ten days since on five frames fitted with whole sheets of foundation. Three or four are now full of comb and sealed, and bees are flying round entrances in great numbers; white clover and honey-producing plants in bloom. Are the bees ready for supering?—if not, when will they

be ready?—W. G. S., *Baxenden, Accrington' June 23rd.*

REPLY.—One or two more combs should be added to the five now in brood nest before supering. The queen will be prevented from adding to the population of the stock for winter unless room for egg-laying be given her. With seven frames at work below you might give a surplus box, but we cannot promise for certain that the bees will take to it.

Bee Shows to Come.

July 19th to 21st.—Lincolnshire Agricultural Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol.

July (date not yet fixed).—Berks B. K. A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

July 25th to 28th. — Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose. Entries close July 19th.

July 26th, 27th, 28th. — Lancashire and Cheshire B.K.A., in connexion with the R.M.L. and N.L. Agricultural Society's show at Blackpool. Entries close July 1st. James Birch, Secretary, 3 Brunswick Street, Liverpool.

August 1st and 2nd. — Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries closed June 24th. For lists apply Marshall Stephenson, Secretary, York.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 29th and 30th.—South of Scotland B.K.A. at Dumfries. Entries close August 25th. Wm. Wilson, Secretary, Acrehead House, Dumfries.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

*** We are compelled to hold over Useful Hints and numerous letters till next week.

*** Would the gentleman who wrote to Mr. Gilbert, of Irlam's Height, Manchester, and gave the address, T. Jones, 4 Woodfield Terrace, Roder, Cardiff, please send corrected address, as Mr. Gilbert's letter has been returned through the Dead Letter Office?

J. MENZIES (Duns).—*Covering for Frames.*—American cloth with the glazed side next the top bars is what we use, adding warm wrappings over this.

WHETSTONE & SONS.—*Honey (?) Samples.*—We should not dignify the stuff sent by naming it honey at all, but should call it the "golden syrup" of household use, with perhaps a slight admixture of honey.

MOSES PRICE.—*Staffs B.K.A.*—If you desire "Expert" help, and have paid your subscription to the Association, the proper course will be to write the Hon. Secretary on the subject.

M. HUMFREY.—*Buying Sections.*—Our correspondent is mistaken in supposing that our "manager" is open to buy honey. We are not dealers.

T. J. ANKINS.—*Bees Working on "Tare" Stems.*—No doubt the bees obtain saccharine matter from the stem, as they do from the underside of the leaves of some plants.

A. G. M.—Comb is affected with foul brood.

T. G. (Staffs).—Honey is a little spoiled by an admixture of honey-dew, otherwise it is a very fair sample. The granulated honey is very nice, as is the "get-up."

JAMES ELLIOTT.—Honey sent is a characteristic sample of the early honey of this year, and is so poor in flavour as to be almost unsaleable as a table honey unless mixed with that of better quality and allowed to granulate before selling.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BREREton, Pulborough, Sussex. f. n.

HONEYCOMB in Sections Wanted.—Best quality and pale colour. Address T. SMITH & Co., Cambridge Street, Hyde Park. A 81

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

BEE TENT on Hire. For terms apply to G. GUNSTON, Bradley Green, Wotton-under-Edge. 135

JUST WHAT YOU WANT! Screw-cap Glass Honey Jars, English make. Strong, handy, easy to bottle, easy to use. 13s. a gross F.O.R. Packages Returnable. Send five stamps for sample. Address GARNETT, 18 Steade Road, Sheffield. A 95

FOR SALE.—Reversable Two-Comb Cylinder Extractor. Cost 40s.; price 12s. 6d. *British Bee Journal*, 1890, strongly bound, very good condition, 3s. 6d. Address HUNKIN, Poole, Dorset. A 96

FOR SALE.—Good May Swarms in Straw Hives. Address H. LINSTEAD, Garboldisham, Thetford. A 97

FOR SALE.—1893 Sections (one pound), 10s. per dozen. Address J. FRAMPTON, Bentworth, Alton, Hants. A 98

FOR SALE.—Six New Bar-frame Hives, one inch, with movable floor and roof, and crate of Blow's Patent Sections. Painted three coats. 12s. 6d. each. Address E. MARSHALL, Duncton, Petworth. A 99

TWO QUEENS from Large Stocks, 2s. 6d. each. Address HARRY J. RAVEN, Park Avenue, West Bridgford. B 1

QUEEN-REARING for Amateurs, together with Notes on Queen Introduction, Uniting Bees, &c. 6½d. Post free Address S. SIMMINS, Seaford, Sussex.

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung, Robbing, and Bees entering Cones, &c. Price 1s. per bottle, in handsome, coloured Postal Boxes. Samples of Bee-Smoke Cartridges, 3d. Address T. HOLLIDAY, Astbury, Congleton. 131

100 lbs. HEATHER HONEY, IN SECTIONS,

From each Colony, is what you may expect by using our special "Crown Heather" Queens, bred from a mother whose stock stored nearly 100 lbs. this Spring by the middle of May. These are reared expressly for our great Northern demand. Money returned in full if not approved. Particulars of S. SIMMINS, Seaford, Sussex. 132

BEE HIVES. BEE SEEDS.

Central Depot for Lancashire and Cheshire.

GEO. ROSE (Successor to P. HARBORDT), 50 Great Charlotte Street, Liverpool, invites inspection of his new pattern of "COTTAGE," "W. B. C.," and "WELLS" HIVES. New Stock of Foundation, Feeders, Smokers, and every requisite for Apiary and Garden now ready for delivery. BEE SEEDS and PLANTS a Speciality. 12 best varieties of Bee Flowers, with directions how to grow them, post free for 2s. Large Illustrated Catalogue of Bee Appliances, Vegetable and Flower Seeds, and all Garden Requisites, free upon applicaton.

All Orders Executed Same Day as Received.

BEE TENT for Flower Shows for Hire, cheap. Very light

Scottish Bee-keepers' Association.

EDINBURGH SUMMER SHOW.

THE THIRD SUMMER EXHIBITION will be held in connexion with the Great Show of the HIGHLAND and AGRICULTURAL SOCIETY, in the DEAN PARK, EDINBURGH, from **Tuesday**, the **25th**, to **Friday**, the **28th** of **July**—the Show of the Season. **Prizes over £50.** Nine Classes for Appliances; ample Classification for Honey in Supers and Sections; also for Extracted and Granulated Honey; Classes for Beeswax and Confectionery containing Honey. The best Judges available will award the Prizes. Schedules are now ready, and all Bee-keepers and Appliance Makers should write for one. Entries close on July 19th. Advertisements wanted for Show Catalogue, 1000 of which will be presented gratis to Visitors. Apply for full information to JOHN WISHART, Assistant Secretary, Market Place, Melrose.

NORTHAMPTONSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW, August 7 & 8, 1893.

DELAPRE PARK, NORTHAMPTON.

SPECIAL PRIZES, Open Free to the United Kingdom. For the BEST Single 1-lb. SECTION OF HONEY. First, 20/-; Second, 15/-; Third, 10/-; Fourth, 5/-; Fifth, 2/6. Competitors not present will be informed of result by post on the first day of the Show. Prizes forwarded to Winners same day. Entries close July 25th.

N.B.—All Entries for the above are to become the property of the Hon. Secretary, and will be sold for the benefit of the Widow and Five Children of the late Mr. H. RINGROSE, of Boughton, one of the first Subscribers to the Association.

For further particulars and Schedules apply to ROBERT HEFFORD, Hon. Sec. Northants B.K.A., Boughton, near Northants. 117

Lincolnshire Agricultural Society.

STAMFORD EXHIBITION.

PRIZES are offered for Poultry, Pigeons, Honey, Hives, Butter, Butter-making, &c., amounting to £138. Entries close July 7th. Prize Lists and Entry Forms may be obtained of

STEPHEN UPTON, *Secretary.*

St. Benedict's Square, Lincoln.
June 22nd, 1893.

BURTT, GLOUCESTER

ILLUSTRATED CATALOGUE

POST FREE.

BEE-HIVE MANUFACTURER

108

PHOTO OF FOUL BROOD.

See previous Advertisement.

NOW READY, price One Snilling, post free.

Bee Journal and *Record* Office, 17 King William Street, Strand, W.C.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 576. Vol. XXI. N.S. 184.] JULY 6, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Still the sun shines and still the heat continues. Rain has also fallen—not much, it is true, in the south, but enough even here to wash away any honey-dew likely to spoil the crop from the limes. These are now in full bloom in Kent, so that the abnormally early blooming of these trees foreshadowed some weeks ago has not been fulfilled, and consequently the orthodox "first week of July" is the correct date of the honey yield from that source. Seeing, therefore, that white clover is so scarce in some parts in 1893, it is satisfactory to suppose that a crop of good lime honey may fairly be expected wherever the bloom is still in its prime, the weather being so extremely favourable just now for the secretion of nectar. Only the other evening, on our way home, between 7 and 8 p.m., we saw a group of about a dozen large lime-trees positively alive with bees, though the shades of evening were fast falling.

HONEY IN THE NORTH.—What a welcome sight to an old Cheshire bee-man was the quantity of white clover in bloom around and about the district in which the "Royal" Show at Chester was held! and didn't the bees carried down to the show from the south take kindly to it! Why, they seemed in a fair way to fill up and seal over every vacant cell in the combs of an observatory hive—staged by Mr. Overton, of Sussex—before the show was over! Surely there was room here for favourable comparison between bees and every other living thing exhibited on the occasion, seeing that while animals of all kinds had to be carefully tended, fed, and cleaned daily, the bees "on show" not only did their own housework, but maintained the character Dr. Watts gave them by busily improving each shining hour in the manner above-mentioned. To slightly "improve" the worthy doctor, they

> "Gathered honey all the day from every *clover* flower."

Northern bee-keepers who attended the show were in excellent spirits anent the honey season. "Honey coming in fast" was the remark on every tongue, so that if the views we heard expressed are representative of the general condition of the industry down there, a good season seems tolerably well ensured. We heard of several heavy supers already got indoors, and, bearing in mind the fact that a fortnight still remains for ingathering before the season even in Cheshire is over, it can scarcely fail to turn out well further north. We must, however, offer a word of caution against giving bees empty sections for filling after the second week of this month, in all districts whose season closes with white clover; rather let the bees finish off and seal over surplus work already on the hives, and allow the bramble or blackberry honey, which succeeds the clover, to go into the brood chamber for the bees' own use.

PRICE OF SUGAR.—We have less hesitation in recommending that the latest summer honey, which is usually of an inferior kind, should this year be left for the bees' use, because of the increase in price of sugar. It went up two shillings per cwt. two months ago, as stated in our issue for May 11th (p. 189), and we are now notified of a further increase to the same amount, so that sugar is now four shillings per cwt. higher than the April rate. "Failure of the beet crop" is stated to be the cause, and growers of cane sugar will, no doubt, be benefiting from the "rise." Bee-keepers should, however, not complain in view of the depressed state of the cane-sugar industry for a long time past, consequent on the competition of beet-sugar producers. But our object in drawing attention to the

matter is that readers may bear in mind the fact and regulate their autumn proceedings accordingly.

TESTING THE PURITY OR OTHERWISE OF HONEY.—It will be remembered that in the *B. J.* for February last there appeared some very important particulars relative to the examination of honey by dialysis for the purpose of detecting adulteration, according to the method discovered by Dr. Oscar Haenle. Our senior editor, Mr. Cowan, is now about terminating a prolonged visit to the Continent—a visit made largely in the interests of bee-keeping—for the purpose of making himself thoroughly acquainted with the latest discoveries on the subject. This he has had the privilege of doing in the laboratory of Dr. Haenle at Strasburg, where every facility and assistance was generously offered by the learned scientist himself for acquiring full information. Our readers will, no doubt, ere long have the result of Mr. Cowan's investigations, and, from what we hear, it would appear as if the question of determining the purity, or otherwise, of honey with absolute certainty is now fairly within measurable distance.

"HONEY GUM" FOR ANTS, EARWIGS, &c.—Have any of our readers tried the above as a preventive of the trouble caused by ants, earwigs, spiders, and such-like getting about hives? We are told that "Honey fly-gum"—sold by chemists for preparing fly-catchers—is an efficient preventive. It is said that if a piece of cord, smeared with the "gum," is tied round each leg of the hive, no insect can pass over it. We have not had the opportunity of trying it personally, but offer the "hint" to those troubled by these pests.

THE WELLS PERFORATED DUMMY.—In kindly response to the request made in "Hints" on p. 231 of *B.B.J.* for June 15th, our correspondent "T. I." has forwarded the "dummy" there referred to for our inspection. Sure enough it is well propolised, almost every perforation being filled up. But—and herein lies the pith of the matter—it is not a correctly made "Wells" dummy. In the first place it has a wide top bar, which, if ordinary metal ends are used on the frames, will keep the faces of the combs on each side of the dummy more than double the proper distance from the perforation. Then the wood instead of "not exceeding $\frac{1}{8}$ in. in thickness" is in parts a full $\frac{1}{4}$ in. We advise our correspondent to try again, to discard the top bar altogether, use thinner wood, and add about one-third more to the number of perforations.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee Meeting held in the Council tent of the Royal Agricultural Society in the show yard at Chester on Wednesday, June 21st, 1893. Present: W. Lees McClure (in the chair), W. B. Carr, J. Garratt, and H. Jonas.

The following were also present by invitation, viz., T. D. Schofield, G. Roberts, C. Wade, W. Tyrer, A. Donbavand, and the Rev. F. J. Buckler.

A letter was read from the Rev. S. R. Wilkinson, inquiring as to whether the B.B.K.A. would undertake to send down, free of cost, a bee-tent and lecturer to an Exhibition to be held at Picton Castle, Pembrokeshire, on August 10th. The Secretary was instructed to communicate with Mr. Wilkinson.

A letter was read from Mr. E. H. Bellairs in reference to a third-class examination at the Southampton Exhibition. The Secretary was requested to write for further particulars.

Mr. Garratt gave notice "That at the next meeting of the Committee he would call attention to the privileges of affiliation in respect to providing judges at country shows."

The Chairman asked for suggestions in reference to the educational work of the Association. Mr. Schofield suggested that candidates should be required to have some knowledge of honey. The Rev. J. F. Buckler considered that the examinations should be made more stringent. This appeared to be the general feeling of those present.

The following resolutions were passed:—

"That the thanks of the Association be given to Mr. Charles Roberts for his gratuitous services to the Association in connexion with the Chester Exhibition.

"That the best thanks of the Association be given to the Royal Agricultural Society for the use of their Council tent for Committee meeting."

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

	£	s.	d.
Amount already acknowledged ...	20	13	0
The Baroness Burdett-Coutts	3	3	0
Captain Campbell ...	2	2	0
Alfred Watkins ...	0	10	6
Geo. Roberts	0	10	0
Miss Eyton	0	10	0
W.P.Meadows (2nd don.)	0	6	0
Wm. McNally ...	0	5	0
T. W.	0	5	0

THE ROYAL SHOW AT CHESTER.

(*Concluded from p.* 253.)

The Honey Classes.

As noted last week, the exhibits staged in the honey classes were rather disappointing. Indeed, excepting Mr. Woodley's sections, there was nothing in any of the four classes for comb honey which we considered quite up to "Royal" Show standard. Far better samples of bee-work will, no doubt, be seen at later shows. Extracted honey, too, was not in any case first rate by a long way, and, in consequence, the exhibits need not be particularised.

Class 340. *Best three Shallow Frames of Honey for Extracting.*—This was a new class, tried for the first time, and, being new, was not largely patronised. We hope, however, to see this class one of the most attractive in all our shows, seeing that the beauty and finish of the combs must be supplemented by honey of good quality in them ere perfection can be approached. Nothing in honey-production can, to our mind, surpass a well-finished shallow frame of good honey. It far exceeds a single section in beauty, and we are sanguine that so soon as bee-keepers have given attention to the production of such for show purposes, the class for shallow frames of "comb honey for extracting" will in the show of the future be the most popular and most keenly contested of any on the show-bench.

In the class under notice Captain Ord obviously got first place by the quality of the honey, and not for the beauty or finish of the combs themselves, the latter being faulty, and less than the usual depth of five and a half inches. The third-prize lot, staged by Mr. Wells, were the best samples of comb-building of the exhibits staged; but the honey in them was inferior.

Classes 341 and 342 call for no comment.

Class 343. *Best and Most Attractive Display of Honey* (in any form).—Four exhibits were staged, all being very presentable, though the honey in each varied "muchly," as the joker says. Mr. Woodley's display was, as usual, almost wholly section honey—handsome, clean, and toothsome-looking as it always is, and altogether so superior that the losers would not grudge it the first prize it deservedly took. The second went to Mr. Dixon for a very mixed exhibit, consisting of good and medium extracted honey, some moderate sections, and several various fancy designs in comb-building. In the third-prize collection of Mr. Green some honey was shown—for variety, we suppose—as nearly black as any we ever looked on. We were asked what it was collected from, and, being quite unable to answer seriously, suggested either the "black thorn" or the "coal-black rose" of Ethiopian poetry! Anyway, it was queer stuff.

Class 344. *Useful Inventions connected with Bee-keeping.*—This generally interesting class only produced five entries, all of which were staged. Before referring to the exhibits, we venture to suggest to the compilers of future schedules that exhibitors of new inventions be invited to append to their exhibits a full description of the articles staged, together with a statement of the advantages anticipated from their use, and to say whether or not they have been put to a practical test. This would be not only most helpful to the judges, but also to bee-keepers attending the show, who are naturally interested and anxious to know all about new things. The non-swarming arrangement exhibited by Mr. Langdon—referred to on p. 242 of our issue for June 22nd—was a case in point. It lay upon the show-bench at Chester simply as an oblong block of wood, with a couple of wire cones projecting from it. No description of the device was attached, and, in consequence, every few indeed of those who saw it would take any interest in the article or have any but the faintest notion of its intended use. We believe a circular was sent along with the "device" from America, but, being loose, was probably carried off by some unthinking person on the first day of the show—for it was not seen afterwards. In view of such contingencies we, therefore, hope to see a remedy provided in the future. Mr. Langdon was awarded a silver medal for the non-swarming arrangement referred to, and a most simple affair it is. There is always a disadvantage in adjudicating on "devices" or "arrangements," which ofttimes have not been subjected to a practical test prior to being shown in competition. The difficulty touches both judges and exhibitors alike, so often do the most carefully thought-out theoretical schemes go wrong when bees are concerned, and probably the fact of the "Langdon device" having been subjected to a thorough trial by the inventor last year on no less than a hundred hives had considerable influence on the minds of the judges. No doubt the idea is a good one, but, without the assurance given, we should have hesitated in accepting all that is claimed for it. Any way, the merit of its "good intentions" having been recognised, time will prove the rest. A bronze medal was awarded to the "Wells" perforated divider, about which so much has been said in our pages, and no doubt many would be pleased to be able to handle the "original article" at Chester, as made by Mr. Wells himself.

Mr. W. Dixon, of Leeds, exhibited a self-hiver which promises well, and we quite incidentally learned before the close of the show that it had been practically tested with perfect success on the only occasion this year in which the exhibitor had an opportunity of trying it. The judges, however, had no cognisance of this fact, and that may account for its non-recognition. Among the best features in the contrivance are its simple method of fixing and removal; then it does away with clogging of the perforations in the excluder zinc in front of entrance by the bodies of drones which die in their efforts to pass out. There is also plenty of room in the

"hiver" to accommodate the swarm if the queen should fail to ascend into the receiving-box placed overhead. We shall await with interest further reports regarding this appliance.

The Rev. R. M. Lamb exhibited a method of spacing frames by means of wood blocks of various widths, which showed considerable ingenuity; but we should like to hear what the inventor has to say of it after further trial before concluding that any advantage is gained by the method over the ordinary spacing by means of "ends," especially in stock hives. For surplus chambers we could do with blocks very well to get extra thick combs, but to have so many loose pieces of wood strung on a wire hanging at each side of every box has disadvantages we cannot overlook.

Class 345. Most interesting and instructive exhibit of any kind connected with bee-keeping not previously mentioned.—A small, but interesting class, the exhibit which apparently commanded most attention being the lantern slides on bees and bee-culture, staged by Messrs. Newton, of London. Since these slides were first issued, several important additions have been made to the scientific section, which are very beautiful, those illustrating the foul-brood bacillus being especially fine. A silver medal was awarded to Messrs. Newton. Mr. C. Redshaw staged the "Rietsche" hand-press for foundation-making—a useful appliance for turning out home-made foundation. Many bee-keepers have an abundance of wax lying about at times, and when this can be turned into very fair sheets of foundation without much labour, it should command notice from a large class. The press was subjected to a practical trial in the presence of the judges, and considering the disadvantageous conditions under which it was done, the work was considered quite satisfactory. A silver medal was awarded to it.

PRIZE LIST (COMPLETED FROM PAGE 253).

Class 336.—Twelve 1-lb. sections 1893 honey. First, W. Woodley, World's End, Newbury; second, T. J. Durrant, Sevenoaks; third, Rev. G. W. Bancks, Durham House, Dartford.

Class 337.—Six 1-lb. sections of 1893 comb honey. First, W. Woodley; second, E. C. R. White, Woodford Mill, Salisbury; third, R. Green, Rainham; commended, Captain Ord, Fornham House, Bury St. Edmund's.

Class 338.—Twelve pounds extracted honey, gathered 1893. First, E. C. R. White; second, S. Cartwright, Shawbury, Salop; third, J. H. Wootton, Byford, Hereford; highly commended, Captain W. S. Ord; commended, C. R. Pigott, Landbeach, Cambridge.

Class 339.—Twelve 1-lb. sections of old honey. First, W. Woodley; second, W. P. Meadows, Syston, Leicester; third, Rev. G. W. Bancks.

Class 340.—Three shallow frames comb honey for extracting, gathered during 1893. First, Captain W. S. Ord; second, J. H. Wootton; third, G. Wells, Aylesford, near Maidstone.

Class 341.—Twelve pounds extracted honey in jars, of 1892 or any year. First, G. Head, Winkfield, near Windsor; second, O. Roberts, The Lodge, Rowton Grange, Chester; third, W. Sells, Uffington, Stamford; commended, H. Wood, Paradise, Lichfield.

Class 342.—Twelve pounds granulated honey in jars. First, no award; second, Miss J. Cooper, St. Nicholas' Square, Leicester; third, Miss E. Chester, Waltham, Melton Mowbray.

Class 343.—Best and most attractive display of honey. First, W. Woodley; second, W. Dixon, Beckett Street, Leeds; third, R. Green, Rainham, Kent.

Class 344.—Any useful invention introduced since 1891. Silver medal, H. P. Langdon, East Constable, Franklin Co., New York, U.S.A., "device for preventing the swarming of bees;" bronze medal, G. Wells, "perforated division-board for two-queen system."

Class 345.—Most interesting and instructive exhibit of any kind connected with bee-culture. Silver medal, Newton & Co., 3 Fleet Street, London, E.C., "lantern slides on bees and bee-culture;" silver medal, C. Redshaw, South Wigston, Leicester, "the Rietsche hand-press for foundation-making, with accessories."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

HEREDITY IN BEES.

[1481.] I have read much, but certainly not all, that has been written on the subject of transmission of instinct in the bee by the nurses. If therefore the few arguments I submit on the other side of the question have already been answered by the supporters of the theory, I can only offer my humble apologies for troubling you with them.

I cannot quite agree with Mr. Hume (1445) in his supposition that the workers react on the nervous susceptibility of the queen in the manner he states, nor do I think he is quite justified in speaking so slightingly of *latent* heredity. In nearly all the insect world the perpetuation of habits and instincts can only be accounted for by the theory of latent heredity. Take, for instance, those creatures whose imago existence is spent on the wing, and whose larval life is spent at the bottom of

ponds, in putrid flesh, in the living animal, or, it may be, burrowing in the ground. These have no nurses to train their ideas, no contemporaries more experienced than themselves, and still with what unerring instinct they lay their eggs where the hatching larvæ could alone find conditions suitable for that stage of their life. Can anything but latent instinct explain this, what Mr. A. I. Root would call "remembering what their grandmothers used to do."

And now, to return to the bee. Let us place in a queenless stock of native bees a purely mated foreign queen, or even a virgin, which shall afterwards be purely mated, and her progeny will have all the distinctive traits of that foreign race. If Palestines, they will have all the vicious temper and rage for propolising; if Carniolans, they will evince the distinguishing habit of swarming and all the other peculiarities of the Carniolan race; or if Italians, they will have all the inward and outward qualities of that bee, and all this in spite of, on the one hand, "nurses transmitting qualities through nourishment," or, on the other, by any "impression from the worker acting on the nervous susceptibility of the queen." Assuming the introduced queen in the above instance to be an Italian, and her produced workers to have inherited all the peculiarities of that breed, including their gentle disposition; let the mother be removed, a young queen reared from her brood, and this queen mated with a native drone, and in a majority of cases the resulting hybrids, while retaining in a high degree all the working qualities of the pure race, will inherit in an equally high degree the bad temper and stinging propensities of the blacks. Here, then, we find splendid working habits and instincts transmitted by a mother who never worked and a strong disposition to sting transmitted by a father who never possessed a sting of his own.

Perhaps an equally striking argument against the theory of transmission of working qualities by nurse-bees is the fact that, *as a rule*, the nurses themselves are young bees who have never done any field-work, and who are therefore presumably as little able as the queen herself to impart a knowledge which they themselves have not yet gained—*unless by heredity*. —J. W. W., *Revesby, July 1st*, 1893.

ESTABLISHING TWO QUEENS IN A "WELLS" HIVE.

[1482.] Can you advise me as to the best means of getting two queens in a "Wells" hive before winter sets in? I have failed in two attempts. First, I introduced two stocks in the spring, but only one got on well, as the other dwindled away. The second attempt was a stock to which I tried to introduce a Carniolan queen, but failed, so left them to raise a queen. They did so, and before she hatched I transferred the whole into the empty half of "Wells" hive. I looked at them when I thought the queen should be out, but found her hatching, so I closed all up warm again until a fortnight after, when I failed to find any queen or eggs, and the bees considerably less in number; so I concluded my attempts this season had failed. I find now that the bees from both halves of the hive are working back and fore from both entrances quite comfortably, the queenless part gradually filling with honey, the other being crammed with both bees and honey, well capped, and forty-eight sections on the top filling.—W. G., *Gowertown, June 23rd.*

[Before venturing an opinion as to why the second attempt at establishing the two queens in the "Wells" hive failed, we should be told how it is that the bees of both compartments are able to mix together and fill the queenless portion with honey. If this mixing was possible all along, it was no wonder the second queen was killed! If the "Wells" hive consists of two distinct divisions, there should be no difficulty in establishing two lots of bees in it.—EDS.]

MY EXPERIENCE WITH HIVES WORKED ON THE "WELLS" PLAN.

[1483.] I have modified four of my combination hives (each of which held fourteen or fifteen frames) by cutting two entrances in the fronts, stopping the end entrance, and putting a slight partition between the two entrances, and I got some perforated wood dummies from friend Howard, not having time to make any. These are made from about three-eighths to half an inch thick, with holes about an eighth, and countersunk from each side to about one-eighth. Of course I made no alteration to floor-boards, only adapting them so that they were wide enough for bees to land at front. As I got each hive altered I put two small stocks into the first, such as in an ordinary season would scarcely have built themselves up. When they were full enough I put on excluder zinc and a box holding shallow frames of worked-out comb, eight to a box, and as my frames are an inch and a half thick, when the combs are filled out they hold much more honey than standard shallow frames. In this first-mentioned case I have already taken two boxes of fully sealed frames off, some of the frames weighing over six pounds each; in the second case I put a crate of twenty-one two-pound sections, which are nearly ready to take off; and from another I have taken off one full box only. In the third case I had two stocks standing at right angles to each other, one facing north, the other east, and as they did not appear to fill up to my mind, either for supering or for putting on extracting frames, I thought I would move them into one of these double hives, which I did just before dark one Saturday night, standing the hive diagonally across so as to make as little difference to the entrances as possible. Of course one lot had to come one way and one the other.

I put on a set of standard frames of comb, but one and a half inch thick and eight to the

box. The bees appeared a little confused the next day, but did not fight or disagree that I could see. After the first day there was no confusion, but they went to work, and I have taken off that box with combs fully sealed right to the bottom of the frames. I found, as others have done, that the bees propolised the holes in the dummies. In this last-mentioned case, I burnt the holes slightly larger, but have not yet examined to see if they have been stopped or not; but in the other cases it does not appear to make any difference, as the partition between two of the hives had come away, being fastened very slightly. The bees seem on quite friendly terms and do not quarrel in the least. As there has been no disposition to swarm, I cannot say how I might alter my opinion if such were the case, because years ago, when I had hives on the same principle, I gave them up because of their starting to swarm. If one lot began, the other followed suit. However, where I failed was in not placing a super common to both hives, as they only worked like ordinary stocks.—JOHN WALTON, *Honey Cott, Weston, Leamington, July 1st*, 1893.

BEES FRATERNISING IN "WELLS" HIVES.

[1484.] The following might perhaps be of interest to your readers:—About a fortnight since I inserted in a hive holding twelve frames and a dummy a "Wells" division-board, and transferred to it two weak colonies of bees, which I will call A and B, colony A being the stronger of the two, B being very weak indeed. The hive has a window at each end, and a strip of glass at the back, about 2½ ins. wide, running the whole length of the hive, with movable shutters.

Noticing this morning that A was fast filling the outer side of its end comb with honey, I thought I might, perhaps, with advantage to myself, give them a super for storage. Accordingly I placed over the two lots of bees a sheet of excluder zinc and twelve shallow frames. Upon my having a peep at them through the back window this evening, I noticed that A's bees had diminished considerably in number, while B had gained, having five seams of bees huddled pretty thickly together, instead of, as formerly, *e.g.* last night, only three seams, and the temperature of each just about the same, instead of, as before, A much higher than B. The bees were perfectly quite, and there was no robbing going on of B by A.

Do not these facts point to the conclusion that in the "Wells" hives bees intermingle not only in the supers, but in the brood nests also?—F. W. K., *Bawtry*.

A SWARM SMOTHERED.

[1485.] A swarm of bees went into a gentleman's sitting-room near, and leave was given to us to hive and fetch the bees away. My husband hived them at a few minutes past one, and left the hive standing in the window where they were hived till about 8.30 p.m., when he brought them home, setting the skep down by the side of a swarm of the same day and one of the Saturday before. There are five old stocks on the same bench where the swarm was set down. The bees seemed very brisk, and to all appearance were a large, healthy swarm. Next morning, at breakfast-time, I went up as usual to look at the bees, as we always do, and found the entrance to the hive covered with dead bees. My husband then lifted the hive, and there lay the bees on the floor-board black, dead, and quite wet or *sticky*. We dug a hole and buried the lot to save the other bees getting to them. I have sent a few of the dead bees and one of the pieces of comb, while in the tissue paper enclosed are some crystals which I picked off the floor-board. I have shown them to several friends who are bee-keepers, and all say that they have never seen the like. We should be glad to hear if you have any idea what is the cause, or whether any of your readers have ever experienced anything of the same kind.—(Mrs.) E. J. MORRIS, *Salop, June 22nd*.

[From some cause or other the bees have been suffocated in the skep. The "wet or sticky" appearance you have noted was caused by the bees disgorging the honey (carried off from the parent hive when swarming) while suffering from want of air, and it would seem as if the smothering happened during or after the removal, because the start of comb-building showed them to be all right after hiving.—EDS.]

SELF-HIVERS, ETC.

[1486.] Having had sent to me for trial one of Mr. Hooker's swarm-hivers, I am sorry the season has turned out that I cannot tell how it might have acted in automatically hiving the swarm, but for any one that is afraid his bees might swarm during his absence from home, it is first-rate. I did not super this hive as I wanted to test it, but man proposes, &c. They did not swarm, but, having filled every available cranny in their hive, they worked upwards into the swarmer, where there were full sheets of foundation, and actually worked out two of the sheets and put honey in them, putting me in mind how my bees used to do in the sixties. I used to tunnel along a board, and place little boxes and get them filled. I have occasionally taken the excluder from the front of this hive at night, and find the poor drones have been sacrificed, showing that swarming has been abandoned for this season. Thinking I would like to see Abbott's common-sense foundation, I sent for a sheet, and put it in the centre of a brood nest, and found it worked out beautifully—no curling at the corners, as with some. This is tapered down to the bottom edge much thinner than at top. I consider it is a decided improvement.

Mr. Meadows sent me one of his "B-off"

super-clearers. I put it on a prepared board and found it acted very well. In one case a solitary bee was left; in another a few baby bees; in another perhaps fifty were left. I think it makes a difference according to the temperature; however, I like them so well that I have sent for half-a-dozen of them; but in the middle of a nice, warm, honey-gathering day, or early in the evening, it is just fun to go with smoker and carbolic cloth, and take off full frames in almost as little time as it takes to put on the bee-escape.

Some one mentioned a week or two back that there were no humble-bees and no wasps. I wish I could say that, as this last week the wasps are getting very numerous and annoying.

Do I use excluder zinc? Yes, and I should not like to do without it; so nice to take off crates and sections without brace combs; also, when I have two sets of shallow frames on at a time, I lay some excluder on top of the bottom set of frames, but not entirely covering them all over. It keeps the bees from joining frames together.

We had a little rain for two or three days a week ago, but now it seems as much of a drought as ever. Bees are very busy now.—JOHN WALTON, *Honey Cott, Weston.*

WEATHER REPORT.

WESTBOURNE, SUSSEX.

June, 1893.

Rainfall, 1·29 in.	Sunshine, 256 hrs.
Heaviest fall, ·69 in. on 27th.	Brightest day, 17th, 15·35 hrs.
Rain fell on 7 days.	Sunless days, 2.
Below average, ·55 in.	Above aver., 32·5 hrs.
Max. temp., 86° on 18th.	Mean max., 68.3°.
	Mean min., 50·3°.
Min. temp., 38° on 1st.	Mean temp., 59·3°.
Min. on grass, 31° on 1st.	Max. barometer, 30·51 on 7th.
Frosty nights, 0.	Min. barometer, 29·52 on 24th.

No swarms.

L. B. BIRKETT.

Queries and Replies.

[822.] *Moving Bees in Skeps in Hot Weather.*—I have had to buy my experience rather dearly of late. I bought three skeps of bees two miles out, and inverted them and wrapped them in cheese-cloth and brought them home, but the combs broke down and I lost nearly all. I managed to gather up enough bees to make a little colony, and what with the wax and honey I am trying to redeem the loss. But it is an experience I shall not forget. I put it down to the intense heat of Friday week. In two of my bar-frame hives also combs slipped down through the heat, but luckily I was near to put them right at once. My queries are as follows:—1. Can I increase my stocks if I have no drones in any of them? Drones are flying in the immediate neighbourhood from skeps of a friend not far away, but must I have drones within the hives devoted to queen-raising to be certain? 2. Is the honey generally sucked out of section comb in eating, or are both comb and honey eaten? 3. How small a number of frames could I winter a stock upon? I am averse to uniting two or three weak stocks. 4. What is a fair proportion of section or extracted honey a fair stock should gather in a moderate season?—ENTHUSIAST, *Stonehouse.*

REPLY.—1. If there are drones on the wing in the neighbourhood, it is quite sufficient. 2. Most persons remove the cappings from the comb and eat the honey, wax and all, down to the midrib, discarding the latter. Others eat the whole of the comb along with the honey. 3. Bees may be wintered on four or five frames. 4. Everything depends upon the honey resources of the locality. As a rule, one box of frames for extracting and one rack of twenty-one one-pound sections would be considered a good return in a single season.

[823.] *A "Large Order" in Queries.*—The queries put by our correspondent "L. E. J. (Fort William)" are so numerous and so elementary in their character that only the briefest replies can be given to a few of them, which we have condensed as below. To reply fully to all the inquiries made would occupy several pages, moreover "L. E. J." must pardon us for saying that a great portion of the information sought is to be found in Cowan's *Guide-book*, already in our correspondent's possession.—EDS.

REPLY.—1. It was quite right to remove the broken-down comb. 2. Foundation guides may be any depth from one inch to full sheets. 3. Refer to *Guide-book* for method of fixing foundation in frames. 4. Give additional frames as bees require room. 5. Above the "ticking" add three or four layers of carpet or flannel for warmth. 6. Bees should be fed on syrup, or with cakes of soft candy; for making these refer to *Guide-book*. 7. Swarms are only fed for a day or two if honey is plentiful outside. 8. The hole in quilt is for feeding. 9. Let the swarms fill their hives this year and super them next. 10. After skeps have swarmed the bees will not work down into frame hives this season by placing the skeps on them. 11. Having swarmed twice already they will not swarm again this year. Replies to remainder of questions may be got by reading the *Guide-book*.

[824.] Would you please help a beginner with reply to following:—I have never kept bees till now, but last winter I bought, read, and re-read *Modern Bee-keeping*. In March I got a bar-frame hive and studied it with help of above book. Yesterday, June 27th, I bought a swarm in a straw skep from an old cottager. I paid 12*s.* 6*d.* for it. He says it was a swarm

of May 18th. He brought it a distance of three miles in a pony-cart. The skep and its contents, including table-cloth in which it was done up, weighed just over seventeen pounds. 1. Was this a good weight? In placing the skep on a stand till next spring, as suggested by the cottager, three large pieces of comb fell out—one piece contained honey, but two other pieces he said "had only got brood in," and these were buried, also at his suggestion. Many bees were left outside the skep, where they still remained at ten p.m., and this morning I see many crushed bees on the ground. 2. I should be glad to know if a practical bee-keeper would have proceeded like this? My reading suggests that the experienced man would have gone differently to work! 3. Shall I leave them in skep as they now are till next spring, or shall I get a good bee-keeper to put them in my bar-frame at once, or in the autumn? 4. Ought I to put my bar-frame crate of sections on top of skep? 5. I think of trying to do without gloves, but feel a bit nervous at first. Would you advise me to use "apifuge," or would washing the hands with carbolic soap be any help? I have some short sleeves of unbleached calico fastening at wrist and above elbow, could these be wrung out in carbolic solution same as stated on p. 30 of *Modern Bee-keeping?* Would this be any help till I get more confidence?—A. G. G., *Sunninghill, Berks, June 28th.*

Reply.—1. Yes. 2. Without being too hard on the cottager, who, no doubt, advised you to the best of his knowledge, it is probable that a more modern bee-keeper would have gone a little differently to work, but it is not an easy task to convey a nine-day-old swarm three miles safely by road in this weather. 3. We should not transfer the bees and combs yet. Rather do it at the end of honey harvest. 4. Yes, if the bees want room and honey is plentiful. 5. You might try the suggested preventives against stinging with advantage, but the sleevelets don't require soaking in carbolic solution.

[825.] *Packing Sections for Post.*—1. Does extracted honey in glass bottles improve or deteriorate by exposure to the sunlight? 2. What is the best way to pack single sections of comb honey to go through the post?—E. C. R. W., *Salisbury.*

Reply.—1. We are not aware of it becoming better or worse by the exposure referred to. Certainly it seems to take no harm, for we have seen jars so exposed for several months with no evil effects visible. 2. If the comb is attached to the wood all round it will travel safely packed in corrugated paper. Sections only partly fastened to the wood should never be sent by post or rail.

[826.] *Renewing Queens — Wiring Shallow Frames.*—1. Three or four of my stocks are not doing so well as I should like them to do, and I fear it is partly on account of the queens getting aged. I have been successful in preventing swarms from each of the hives mentioned for three years. Ought I to re-queen them? If so will you kindly give your advice as to how and when to do it? 2. Is it necessary to wire foundation in shallow frames?—T. J. J., *Grittleton, Chippenham, June 29th.*

Reply.—1. Stocks to do well should be re-queened every second year. Autumn is the best time for giving young queens and they may be introduced by the "direct" method or by use of a queen-cage. You should certainly consult some sort of reliable guide-book for details of these operations; our space is too limited to give *full* particulars, and brief directions are sometimes misleading. 2. We do not wire shallow frames, and never have combs break down when extracting.

[827.] *Honey-dew.*—In this district (Hants) June honey is much infected with honey-dew. This spoils the colour and flavour, but does it make the honey unwholesome or unsaleable?

Reply.—Honey largely mixed with honey-dew is almost unsaleable for table use because of the faults named, but we are not aware of its being actually unwholesome.

Echoes from the Hives.

Bromsgrove, June 20th.—Grand weather here for bees and plenty of forage. Have extracted about 100 frames standard, and they are commencing to seal (in one or two hives) the returned frames again.—T. G.

Fauldhouse, N.B., June 26th.—This is the best year I have ever seen for the bees; they are gaining weight very fast. Clover is just about its best, and the heather will be in bloom, fit for the bees, in about a fortnight; you can pull some hea s now just bursting into bloom. —W. H.

LECTURES ON BEE-KEEPING.

On Friday, June 23rd, at the Schoolroom, Mareham-le-Fen, Lincolnshire, in connexion with the Technical Education movement, Mr. J. W. Wilson, of Revesby, delivered the first of a series of three lectures on Bees and Bee-keeping. There was a good attendance, including about fifty interested labourers. The Rev. W. Crass, the rector, in the chair. In introducing the subject, Mr. Wilson pointed out the importance of it, and the pleasure which might be secured by those who gave it their careful attention and study. Not the least interesting part of the lecture was what was said respecting the products of bees and the profits which might be made by successful bee-keepers. It was a thoroughly practical, well-thought-out lecture, and much that was useful might be gathered from it. There are several people in Mareham and the neighbourhood who keep bees with pleasure and profit, and we hope that the proceedings referred to may give an impetus to

bee-keeping. Mr. Wilson will deliver his second lecture in the Schoolroom at Mareham on the evening of Friday next, July 7th.—*Communicated.*

Bee Shows to Come.

July 19th.—Cranleigh and District Bee Club Show at Cranleigh. Prizes for honey, hives, &c. For schedules, write John Charlwood, Secretary, College Road, Cranleigh.

July 19th to 21st.—Lincolnshire Agricultural Society's Show at Stamford. Bees, honey, hives and appliances. Liberal prizes. Entries close July 7th. S. Upton, Secretary, St. Benedict's Square, Lincoln.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol, or from local Secretaries.

July (date not yet fixed).—Berks B. K. A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

July 25th to 28th. — Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. Prize lists in due course from John Wishart, Assistant Secretary, Market Place, Melrose. Entries close July 19th.

July 26th, 27th, 28th. — Lancashire and Cheshire B.K.A., in connexion with the R.M.L. and N.L. Agricultural Society's show at Blackpool. Entries close July 1st. James Birch, Secretary, 3 Brunswick Street, Liverpool.

August 1st and 2nd. — Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries closed June 24th. For lists apply Marshall Stephenson, Secretary, York.

August 7th.—Berks Bee-keepers' Association, Newbury District, in connexion with the Flower Show in Shaw Avenue, Newbury: 11*l.* cash prizes. Entries close August 1st. Hon. Secretary, W. Hawkes, Newtown Road, Newbury.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 12th.—Wotton-u-E. District Annual Show of Honey and Cottagers' Flower Show. £20 in prizes. Entries close Saturday, August 5th. Schedules of G. Gunston, Hon. Secretary, Bradley Green, Wotton-under-Edge.

August 15th and 16th.—South of England B.K.A. at Dumfries. Wm. Wilson, Secretary, Acrehead House, Dumfries.

[We are requested to draw attention to the above show previously announced for August 29th and 30th.—EDS.]

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries close August 15th. For schedules apply John Latham, Secretary, North Albion Steert, Fleetwood, Lancashire.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main Street, Alexandria, N.B.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

*** Conclusion of article on Mr. Blow's Apiary will appear next week, together with several letters and queries, already in type.

E. T. (Glouc.).—*Samples of Honey.*—We consider No. 2 the best for colour, consistency, and flavour.

G. ASHSTEAD (Rochester).—Comb sent is perfectly free from foul brood.

J. E. G. (Burton).—Combs sent are affected with foul brood. At this season curative measures are difficult of application, as bees will not take food while it is to be had outside—besides, there is the coming risk of robbing being started at the close of the honey-flow. We should therefore give up the idea of curing if the stock is weak. For further information read reply to 799, p. 236 of *B. J.* for June 15th, and to "A. W. C." on p. 239 of same issue.

A NORTH DEVON BEE-KEEPER.—Comb is badly affected with foul brood. Refer to reply to "J. E. G."

G. SMITH (Derby).—*Races of Bees.*—No. 1 is the ordinary bee of the country. 2 and 3 have been crossed with Carniolans. It is quite impossible for us to say which is the "*best* sort" from inspection of dead samples.

JNO. PARDON (Devon).—1. Comb contains only pollen, and it can do no harm to give it to the bees. 2. Hives for uniting should be brought gradually near to each other before the operation takes place.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BEERETON, Pulborough, Sussex. f. n.

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

BEE TENT on Hire. For terms apply to G. GUNSTON, Bradley Green, Wotton-under-Edge. 135

JUST WHAT YOU WANT! Screw-cap Glass Honey Jars, English make. Strong, handy, easy to bottle, easy to use. 13s. a gross F.O.R. Packages Returnable. Send five stamps for sample. Address GARNETT, 18 Steade Road, Sheffield. A 95

NEIGHBOUR'S 1893 Improved Cylinder Honey Extractor, only used three times, takes two Standard Frames, bargain, 15s. Also Neighbour's No. 20 Unicomb Observatory Hive, in perfect order, cost 50s., takes six Standard Frames—all the mysteries of the hive are exposed to view—price on rail, 26s. Stocks of English Bees on eight frames, securely packed with plenty of brood and sufficient honey to travel safely. 25s., package free; deposit. Address WM. HINSON, Parkgate Road, Reigate, Surrey. B 2

BICYCLE.—Exceptional opportunity. Bee-keepers wanting a New, Highest Grade, Safety or Tricycle should ask for full particulars from A. T. WILMOT, St. Albans. B 3

WANTED.—Good Modern Cylinder Extractor. Address W. J. GREEN, Bishop's Waltham, Hants. B 4

FOR SALE.—Strong Healthy Stocks in Frame Hives, with Surplus Honey. Offers wanted. Address KAY, Park Cottage, Wilmington, Kent. B 5

WANTED, by an Expert, a Situation as Manager or Caretaker of Bees or Apiary on Gentleman's Estate or elsewhere. Has Thirty Stocks to dispose of or join with others. Advertiser is thoroughly experienced in Hive-making of every description, and is a Good Hand at making Honeycomb Designs, several of which he has now on hand for completion if wanted. Address H. SEAMARK, The Apiary, Willingham, Cambs. B 7

FOR SALE.—Pure White Clover Honey Sections and others for Cash. What price offered? Also a Two-Framed Observatory Hive, New, cost 40s.; will take half. Address SEAMARK, Willingham, Cambs. B 8

SECTIONS.—Wanted, First Quality Sections, any quantity. Also Extracted Honey. Address NYE & SONS, Western Street, Brighton. 143

HONEY.—Interesting 8 pp. Pamphlet, explaining to general Public how Honey is harvested and gathered by the Ton. By distributing it you can sell all your Honey at home at a good figure. Copy gratis and post free of S. SIMMINS, Seaford, Sussex.

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung, Robbing, and Bees entering Cones, &c. Price 1s. per bottle, in handsome, coloured Postal Boxes. Samples of Bee-Smoke Cartridges, 3d. Address T. HOLLIDAY, Astbury, Congleton. 131

100 lbs. HEATHER HONEY, IN SECTIONS,

From each Colony, is what you may expect by using our special "Crown Heather" Queens, bred from a mother whose stock stored nearly 100 lbs. this Spring by the middle of May. These are reared expressly for our great Northern demand. Money returned in full if not approved. Particulars of S. SIMMINS, Seaford, Sussex. 132

GENUINE ITALIAN BEES.—Queens, Swarms, Nuclei; or Established on Fixed and Movable Combs, at reasonable rates. Safe arrival guaranteed. Price List post free.

L. R. LAMBERTENGHI & Co., Caravaggio, Italy.

HONEY AND ITS USES. By the Rev. GERARD W. BANCKS, M.A. 3/6 per 100, 8/- per 250, 14/6 per 500, carriage paid. By freely distributing this Pamphlet, a ready market for Honey may be made in the Bee-keeper's own neighbourhood.

Specimen Copy on application.

Address Durham House, Green Street Green, Dartford. 141

Scottish Bee-keepers' Association.

EDINBURGH SUMMER SHOW.

THE THIRD SUMMER EXHIBITION will be held in connexion with the Great Show of the HIGHLAND and AGRICULTURAL SOCIETY, in the DEAN PARK, EDINBURGH, from **Tuesday**, the **25th**, to **Friday**, the **28th** of **July**—the Show of the Season. **Prizes over £50.** Nine Classes for Appliances; ample Classification for Honey in Supers and Sections; also for Extracted and Granulated Honey; Classes for Beeswax and Confectionery containing Honey. The best Judges available will award the Prizes. Schedules are now ready, and all Bee-keepers and Appliance Makers should write for one. Entries close on July 19th. Advertisements wanted for Show Catalogue, 1000 of which will be presented gratis to Visitors. Apply for full information to JOHN WISHART, Assistant Secretary, Market Place, Melrose. 138

VALE OF LEVEN Bee-keepers' Association HONEY SHOW,

In BURGH HALL, DUMBARTON,

On Saturday, September 2nd.

Schedules from J. WALKER, *Sec.*, 74 Main Street, Alexandria, N.B.

Lincolnshire Agricultural Society.

STAMFORD EXHIBITION.

PRIZES are offered for Poultry, Pigeons, Honey, Hives, Butter, Butter-making, &c., amounting to **£138.** Entries close July 7th. Prize Lists and Entry Forms may be obtained of

STEPHEN UPTON, *Secretary.*

St. Benedict's Square, Lincoln.
June 22nd, 1893.

BURTT, GLOUCESTER

ILLUSTRATED CATALOGUE
POST FREE.
BEE-HIVE MANUFACTURER

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 577. Vol. XXI. N.S. 185.] JULY 13, 1893. [*Published Weekly*

Editorial, Notices, &c.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The forthcoming summer show of this Association, which is to be held in Edinburgh, in connexion with the annual exhibition of the Highland and Agricultural Society, promises to be a success. No effort will be spared to make the show the best of the season, and the liberal classification and prizes, amounting in value to 50*l.*, should bring entries from all parts of the kingdom. The Association has secured the services of Mr. S. J. Baldwin, chief expert to the British Bee-keepers' Association, to give frequent demonstrations and lectures during the four days of the show, and he will also act as one of the judges of honey.

Mr. W. Broughton Carr, co-editor of the *British Bee Journal* and *Record*, with the following Scottish gentlemen, have agreed to act as judges:—Rev. J. B. Robertson, Leswalt Manse, Stranraer; Rev. R. M'Clelland, the Manse, Inchinnan, Renfrew; Colonel Bennett, of Alloway Park, Ayr; Dr. Murray, Galashiels; Mr. C. Chouler, Dalkeith; Mr. J. A. Holms, Sandyford, Paisley; Mr. Charles G. Meldrum, Logierait, Ballinluig; Mr. F. McConnel, Blackyett, Ecclefechan; Mr. W. Sword, Falkirk, and Mr. John Stewart, Letham Mill, Arbroath.

The attractions of the beautiful Scottish capital, combined with the good travelling facilities by rail and sea to Edinburgh, are sure to attract the Southerns in large numbers to the show in the Dean Park. If possible, a meeting of the members will be held during the show.

The Assistant Secretary will be pleased to render any aid in his power to strangers visiting Edinburgh. He would feel obliged to intending exhibitors were they to make their entries as early as possible. It would thus prevent the necessity of having post-entries in the catalogue, and allow the labels to be posted in ample time for the dispatch of exhibits by goods train. The entries close on Wednesday, July 19th.

Further particulars regarding the show will be found in the advertisement on outside page of cover in this issue. Prize lists and other information can be had from Mr. John Wishart, assistant secretary, 5 Market Place, Melrose.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

	£	*s.*	*d.*
Amount already acknowledged ...	28	4	6
W. Burdett-Coutts, Esq., M.P. ...	2	2	0
Captain St. G. Ord ...	1	1	0
Wm. Woodley ...	1	0	0
E. D. T.	0	10	0
Rev. R. M Lamb ...	0	5	0

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of June, 1893, was 6676*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

HONEY EXHIBITS AT FARNINGHAM, KENT.

A fair exhibit of honey was made by the members of the Farningham Rose Society at their annual show on July 7th. As the competition was limited to the members of the Rose Show, there was much less honey staged than if members of the Kent B.K.A. had been admitted to the competition. The exhibits were judged by Mr. W. Broughton Carr, with the following result:—

Class 40. Twelve sections (1-lb. or 2-lbs. each) of comb honey.—1st, Mr. E. D. Till; 2nd, the Rev. G. Bancks; 3rd, Sir M. Collett.

Class 41. Run or extracted honey (1-lb. or 2-lb. glass jars), total exhibit 12 lbs.—1st, Mr. T. Fisher; 2nd, the Rev. G. Bancks; 3rd, the Rev. G. Bancks.

Class 42. Display of comb honey for extracting, not exceeding 25 lbs.—1st, Mr. E. D. Till; 2nd, the Rev. G. Bancks; 3rd, Miss Wood.

Cottagers' Classes.

Class 58. Run or extracted honey in 1-lb. glass jars, total exhibit of 6 lbs.—2nd, Mr. R. Wheeler.

Class 59. Six sections of comb honey, total exhibit about 6 lbs.—1st, Mr. R. Wheeler.

Two very perfect examples of wasps' nests were staged, each as big as a small gas globe, almost cylindrical, one built in a currant and the other in a gooseberry-bush.—*Communicated.*

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 4th instant. Present: Mr. Edmondson, in the chair; Messrs. Gillies, Drought, O'Bryen; and the Hon. Secretaries, Messrs. Read and Chenevix.

Mr. O'Bryen reported that the Congested Districts Board had undertaken the promotion of bee-keeping in parts of counties Mayo and Sligo, and had appointed him Instructor, with directions to be guided in his action by the advice of the I.B.K.A. Committee, and he accordingly consulted the Committee on certain points.

It was resolved that the Association should give assistance themselves to two bee-keepers in county Galway on certain conditions.

A very fine specimen of section honey was received by the Committee from Mr. Thomas Dea, of Ballyglass, as a small acknowledgment of services rendered to him by the Association.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

PRACTICAL *VERSUS* SCIENTIFIC BEE-KEEPING.

[1487.] In your issue of June 29th (p. 254), I observe in "Notes by the Way" that your esteemed correspondent, Mr. W. Woodley, calls attention to some instructive (?) articles on bees which have recently appeared in *Great Thoughts* from the pen of a Mr. James Crowther.

Now, to my mind, this gentleman does not seem to be a practical bee-keeper at all, and certainly cannot be much of a naturalist, for I happened to read the first of the series of articles referred to, which appeared in the number of *Great Thoughts* for April 22nd last, and for the information of your readers, I quote from it a paragraph containing what appears like "ancient history." It is as follows:—

"You know, of course, that in the bee family there are several classes; first, the queen, who is both mother and monarch of the whole hive; then secondly, the workers, who do all the business of the hive, which consists of collecting pollen from the flowers, *turning it into wax for their houses, forming that wonderful dwelling-place the comb; then bread-making for the ordinary bees, and a very different kind, of course, for the royal family;* then, again, varnish-making for the dwelling-places, so that all may be free from draught; then, still further, the *manufacture* of poison, which they inject into the bodies of their enemies; and, lastly, the kneading of pap for the babies." A little farther down, the occupation of drones is described as "*waiting on her majesty.*" The italics are mine. I have not seen the succeeding articles alluded to by Mr. Woodley, but if this is to be taken as a sample of the whole, I certainly would much rather go to a more reliable source for my bee-knowledge. It seems to me that the author, in his haste to reach the scientific part of his subject, and write about the eye and antennæ of the bee, has neglected the alphabetical part familiar to every practical bee-keeper.—OSWALD HARDY, *Dunkalk, July 5th.*

NOTES FROM OXFORDSHIRE.

[1488.] This appears to be a very favourable season for bees in this part of the country. My twenty-three hives are filled up, and, all told, they contain, I calculate, a ton of honey. But now the question arises, what is to be done with the harvest when gathered in? I asked "the stores" if they would take it all, and they offer 8*s.* per dozen sections delivered, but they require a sample, and no doubt also only the very best. I used sections of last year, and these (the wood) are dull, to use no more disparaging term, and very likely would not be accepted. Then, again, an eighty-mile journey by rail, and subsequent carriage to the stores, would cause my harvest to arrive in a sorry state at its destination, I guess. I therefore hesitate to move in the matter. I asked local tradesmen, but they say honey has been exposed in their windows for months without finding purchasers. In the meanwhile my storeroom is getting choked up, although I distribute sections to all likely to appreciate them, and as persons may also be seen walking off with the produce of my dairy, this place may fairly be likened to the promised Canaan, "a land flowing with milk and honey." Unfortunately, when I began robbing my hives, I found I had, with culpable negligence, exhausted the 1000 sections which I purchased at a sale for 11*s.* last year, and although I sent a cheque for another 1000, they have not yet appeared, no doubt in consequence of the enormous demand for such things.

When I began bee-keeping some years ago, I had no idea that my apiary could be so extensive as it is now. I bought a swarm and a hive from a gentleman here, and he undertook to manage it for me, and take the swarms for his trouble. The first honey he took looked so very beautiful, that I determined to dispense with my friend's assistance and manage the hives myself; my gardener also was much impressed with the beauty of the honey in the honey-comb, and also volunteered to act as my assistant bee-master. I lent him my sixpenny

book, and he, I own, took in the salient points which produce efficiency much quicker, and in a more practical manner than I do, and now we together find no difficulty in manipulating the hives.

Making the hives forms a never-failing source of employment during the winter months. Not long ago I took the chair at a lecture on "bee-keeping" given under the auspices of the County Council, and the following hints which I gave may be useful to amateur bee-keepers:—

If money is no object, have all your hives made by machinery, as they will suit the requirements of bees exactly. As, however, it is difficult to imagine anything more suitable to afford amusement to the amateur carpenter than hive-making, make your own hives if you can, but take care they are all the same size, so that section cases are interchangeable. Always buy your frames and sections. Some people advise "use lots of smoke and no gloves." This is bad advice, as I got stung on the hand or wrist almost every time I robbed my hives; use india-rubber gloves and pull an old stocking with the foot cut off over glove and sleeve.

Always have an assistant when taking off sections and putting them on, to do the smoking, and keep an eye on the tools, &c.: use as little smoke as possible, as it taints the honey. In early days, when we followed the much-smoke theory, our honey tasted like Yorkshire ham. Now the robbing on our part is done so quietly and quickly that hardly any smoke is required.

I always do the manipulating, and wear a veil and gloves; my gardener, who holds the bellows, finds there is no occasion for any protection. My friend, the gentleman who started me bee-keeping, hinted that it is cowardly to use a veil. I, however, threatened to retaliate by calling him a fool each time he got stung, which was pretty often. Hitherto I have not had a single swarm this year. My gardener accounts for this by saying that honey has been coming in so fast, there was no room for queen-cells.—L.

[The point for our correspondent and all others to consider, is how to have their honey put up in the best form for the sale counter. Sections are advertised for every week in our columns, but they must be *good sections*, and those who produce such will be able to find a market for them, while bad ones are almost worthless for sale purposes.—EDS.]

SCARCITY OF SWARMS.

[1489.] I read in your valuable journal that there is a great scarcity of swarms this year; so that I am no exception. I have wintered over twenty colonies, and have only had two swarms from the lot, and these came from two weak skeps which I had to feed in the early spring. They only swarmed once, so that I did not get a single second swarm. I did not get honey here so early as a good many who report in your journal, but we have no fruit orchards. However, my bees have done fairly well this month considering the hot, dry weather, but the total yield will be less than last year, when the lime-trees gave plenty of honey, but this year they have almost no bloom on them. White clover is also very scarce, but the blackberries are already in bloom, and they help to spoil the flavour of the honey. I am interested in the "Wells" hive, and anxiously waiting to see what success attends it in the hands of amateurs. I see a correspondent refers to the scarcity of humble-bees and wasps, but I fear that we shall have an abundance of the latter before long, as the young ones are beginning to come out thick already. The 1st of August is the time they usually make their appearance. Drones are flying thicker from my hives now than they have done before, and the hives are fuller of worker-bees than at any time this year. They did not seem so full in May as in April. Wishing you and all bee-keepers prosperity—J. L., *Brackley.*

A GOOD SEASON IN YORKSHIRE.

[1490.] We are having a grand season here, the best, I consider, since 1875, when I became an apiculturist. I got thirty-one hives out of thirty-six through the winter, which have increased to forty-two (five natural and six artificial swarms). I have taken off about fifty supers of twenty pounds each, and have about seventy-five now on the hives, which are likely to be all filled if the sunny weather lasts another week or two.—R. M. LAMB, *Burton Pidsea Rectory, Hull, July 10th.*

THE SEASON IN MID-OXON.

[1491.] The honey season, at least in this immediate neighbourhood, will, I fear, prove a bad one. My stocks wintered well and came out strong in April, and some honey was gathered from the blackthorns. The clover, which is our chief honey-producer, never came out in such white sheets as it generally does, lasting usually three or four weeks, but it was very stunted and burnt up with the drought after the first week. Since then the bees have only about gathered enough to live upon. I have had no swarms, owing to my method, I suppose, of tiering. Nevertheless, I do not believe my yield will be more than twenty pounds per hive of honey. Last year it was fifty pounds per hive.

I have had a few cases of two queens living together in the same hive. In one hive two queens lived together for three weeks, and as the bees showed no inclination for deposing the old one, I had to do it myself.

I believe in districts where showers were frequent, or where clover was abundant, the yield of honey will be an average one; but judging by the performance of my own bees I think the honey crop will be very various.—APIARIST, *Wychwood Forest, July 10th,* 1893.

YOUNG QUEENS.

[1492.] Will you allow me to beg all bee-keepers to give close attention to the ages of their queen-bees? Mr. Simmins some years ago so impressed me with his arguments in favour of regular re-queening that I have given the plan a thorough trial for several years, during which time the number of my hives has varied from thirty to 150. I try to re-queen every hive each autumn, but I often fail to raise exactly the right number of queens, and, consequently, a few hives keep their queens through another season. A stranger examining my hives in March would detect no difference, but I could guarantee that in May he would be able to point at nine out of ten of the old-queened hives, because such are very much slower in building up. The reason, I believe, is that the workers from a young queen are very much more vigorous.

Everybody might not care to re-queen each year, but, at any rate, it should be done once in two years, if stocks have not swarmed. The tendency for large hives and frequent removal of surplus honey has so reduced swarming in many apiaries that bee-keepers often overlook the age of the queen. I need hardly add that hives which have swarmed are headed by young queens, and, of course, there is no advantage in re-queening such stocks. Easy ways of raising queens were given in the *B. B. J.* a few years ago, and I think many of your new subscribers would be benefited if you reprinted some of the plainest methods then advised by prominent bee-keepers. I may add that I have no queens for sale this summer.—EDWARD J. GIBBINS, *Neath.*

BEES IN NEW ZEALAND.

[1493.] I have just received the *British Bee Journal* for February 23rd, and I note in it my letter to you of December 28th, 1892.

From my address at foot you will surmise that I have for the present abandoned my idea of starting an apiary in the Malay Peninsula. I hope, however, in a couple of years' time, (if God spares me) to make another attempt to carry out my plan, which I have reason to believe will be successful. I will send you some notes from time to time from New Zealand, if they are likely to be interesting. The bush here literally swarms with bees. The Pennywgal which has established itself here as a farmers' pest, is alive with bees, which I believe gather much honey from it.—W. H., *Auckland, N.Z., April 29th.*

A VISIT TO A HIVE FACTORY AND APIARY.

(*Concluded from page* 246.)

Our limited space precludes us from dwelling on the various items interesting to the bee-keeper which present themselves on inspecting the few stocks which time and the coldness of the weather permitted us to examine. We may, however, say that all were in perfect health and doing well.

On entering the premises by the door near the right-hand side of the main building we find ourselves in the machine-room and main workshop, the carpenters' work-benches running along the whole length of the two-story portion of the building, except the part lighted by a couple of the windows on the extreme right, these looking into the "office" and packing-room for light goods and small appliances. From this office, divided from the other part by glazed partitioning, a full view is obtained of the whole of the work in operation on the ground floor. At the further side from the front there is also a small laboratory and photographic room, the camera being one of the few hobbies Mr. Blow has time to devote himself to.

It need hardly be said that what with circular saws going, the various machine-benches in full swing, workmen's hammers, and, above all, the tremendous "row" caused by the rapid thump, thump of a powerful wood-chopping machine, the noise is so great that conversation is out of question, and it was with a feeling akin to relief that we passed up to the quieter atmosphere of the stock-room or warehouse on the second floor. This room occupies the same space as the one below, and, being open to the roof makes a fine lofty place for its purpose. The stock of bee-goods on hand is larger than we ever saw under one roof before, but no attempt whatever is made at "displaying" the numerous articles everywhere surrounding us; in fact, the peculiar arrangement of the goods is one of the "good things" picked up by Mr. Blow on his visit to the extensive establishment in America belonging to Mr. A. I. Root, editor of *Gleanings* and proprietor of the "Home of the Honey-bee," at Medina, Ohio.

Following the American plan, the floor-space next the walls is divided off from floor to ceiling by a light, open framework into compartments of various widths, according to the size of the articles "stocked" in each. In this way we saw a solid "wall," consisting of hundreds of section racks ready fitted for use, each one being the exact counterpart of the other, and packed into the least possible space. The same with every other article sold: extractors in one, smokers in another, straw skeps in a third, followed by others containing feeders, honey jars—in fact, bee-appliances of every sort, but each kind occupying its own compartment, so that no "mixing up" of goods occurs, while the proprietor is enabled to see at a glance what quantity of each article he has in stock, and keeps us the supply accordingly. Then what an enormous saving of space it secures! and how it must assist the buyer, seller, and, more than all, the packers whose duty it is to "fill" orders coming by post! Any way, we commend this plan of stocking goods to others in the same line

of business, as being the best arrangement possible for the purposes of trade.

Straw skep-making—of which we are enabled to give an interesting illustration below—is one of the few branches of Mr. Blow's trade not carried on at the "Works;" the exclusive services of an expert skep-maker and his family, whose portraits appear in the cut, being engaged on this particular work for the greater part of each year.

After going over the various parts of the building devoted to bee-appliances, we passed on to another and important branch of Mr. Blow's trade, embracing the cutting and bundling by the ton of firewood for household purposes. This department was started partly with the idea of keeping machines and men employed during the winter-time, when the bee-trade is comparatively at a standstill. It is carried on at that end of the building by the engine-house on the left, and conspicuous by its greater height. Few would believe how much of interest there is in watching the operations of the powerful machinery and the many labour-saving devices necessary in the business of producing bundles of firewood on a large scale.

First, there is a massive saw-bench, with its large, vicious-looking circular saws fixed three abreast, and making we forget how many thousand revolutions per minute; but they rapidly cut the heavy logs of wood (three inches thick) into equal lengths of about 6×9 inches. These lengths are then passed, end up, into the chopping machine as fast as a man can "feed" it, where, being automatically drawn in and passed under the "cutters," a few of the noisy "thump, thumps," to which we have already referred, reduce the blocks to chips, and in this form they move along, only to fall into a series of baskets or boxes fixed dredger-like on endless bands. These rows of baskets are constantly passing up full to the top story, where, turning over, they empty themselves and return for another load. Thus an enormous heap of chips soon accumulates on the top floor, on one side of which are several wide-mouthed "hoppers," with shafts leading to the "bundling benches" in the room below. At each of these benches

STRAW SKEP MAKING.

a boy is stationed, who, with an iron clamp or collar in front of him, fixes the needful quantity of chips into the clamp: this done, he presses a lever with his foot, which grips and crushes the wood close up, and holds it so. A single length of wire is then quickly passed round the bundle, and a couple of turns secures it. The finished article is tossed aside ready for "crating" by other boys at work, giving that final touch to the series of operations required in turning out a marketable bundle of "chips."

Whether or not this crude description of what was to us an entirely new trade will possess any interest for readers of the *B. J.*, we cannot say; but the hour we spent in watching the process was a very interesting one indeed, and we returned to town much gratified with our visit to the "Welwyn Beehive Works."

Queries and Replies.

[828.] *Making Artificial Swarms.*—I wish to make an artificial swarm without spoiling my present stock. I have one stock only, in a bar-frame hive, which has yielded about thirty-five pounds of honey in supers, and it has twelve frames in brood box. Kindly answer as follows:—1. When is the best time to make an artificial swarm? 2. If it is late in the year, is it too late for doing it successfully? 3. How many frames shall I put in new hive together with that on which the queen is? The stock has twelve frames.—T. P., *Sittingbourne, July 7th.*

Reply.—1. About end of May or beginning of June. 2. Without taking into account how late it may be done successfully, we do not advise you trying the experiment at all under the circumstances. The present year has proved so exceptionally unfavourable for natural swarming that to swarm bees at this late season, with only one stock to deal with, would be very risky, and might end disastrously. Our correspondent should at least possess a small hand-book on bee-management, wherein he could read full particulars of the risks to be avoided in making artificial swarms. To be safe, it should be done earlier on in the season, and, moreover, two stocks are desirable in order to make a third. One stock should supply the swarm and a second stock the bees for re-populating the hive which has been depleted. 3. The usual plan is to take the comb on which the queen is found and set it in a new hive on the old stand, removing the old stock to a distance away. It should, as mentioned above, be put on the stand of a second stock, to get the flying bees of the latter.

[829.] *Moving Bees to the Moors.*—In the course of a fortnight I shall remove my two stocks of bees to the Scarboro' moors, about three miles away. I dread this annual expedition more than anything else connected with my bees, and this year the difficulties are greater than they have ever been before. In the first place, my hives are surrounded on all sides with obstacles, a timber merchant having bought the land where my hives are located, and stocked it with huge stocks of pit-props, larch-poles, tree-trunks, &c., so that my hives are thoroughly hemmed in, except that there is a flight-space of about eight feet square in front of them. Immediately at the rear of the hives is a low hedge, eighteen inches behind the hedge is a brick wall four feet high, and on the other side of the wall are yards and cottages. It is impossible to carry the hives outwards to the front owing to a pile of tree-trunks, or upwards owing to the stacks of poles, the only way out being backwards, through the hedge and over the wall into the street, *viâ* a "yard" and a back passage. To surmount these obstacles it will be necessary to make up the hives and parcels as light as possible. One of my hives is a "Cowan," the other being not-take-to-pieceable. Neither colony having swarmed, both are very strong. It would, I imagine, be unwise to pack all the bees, which (in the case of the "Cowan" hive) crowd thirty-seven frames (ten standards and twenty-seven shallows) into the brood box. The plan which suggests itself to me is to remove the three shallow-framed supers, bees and all (the honey having been extracted from them a day or two before), and make a separate parcel of them. On former occasions we have set off for the moors at about 8 or 8.30 p.m., according to the weather, and on reaching our destination we unload, and with the aid of a lantern place them in position and remove the perforated zinc from the entrance. This will be the first time that I have had to deal with bees confined in supers, and it is in regard to this matter that I solicit your valued advice. Would those confined bees be in a condition of great irritation the next morning at 10 a.m., or would the task of placing the supers in position be an easy one? 2. In connexion with the fastening of the frames preparatory to removal, I should like to know if there is any method of securing frames which will leave a *level* surface above them, and so render it unnecessary to remove the fastenings until *after returning?* Distance racks are very effective but they cause a lot of trouble, as they have to be twice fixed and twice removed each trip to the moors and back. 3. When next I make a hive I shall overcome this difficulty by letting the frames into notches, so that the tops will be flush with the top of the brood box. By rubbing vaseline on the shoulders of the frames the bees will not glue them down, and the frames will always be firm in case of removal: will this plan do? When preparing the hives for the winter, instead of an "eke" being put at the bottom of the hive I should place it at the top, so arranged as to give a wider space between the frames, the underside of the "eke" being made to fit into the open spaces below it. I find the principle of metal ends and runners of very little practical use to me. I always use ten brood frames in the summer, set at equal distances. I trust you will read this dissertation and give me your advice and opinion on the points enumerated, especially with regard to (*a*) the best plan of getting the hives over the wall, (*b*) the confined bees in the supers, and (*c*) the idea of frames let in at fixed distances, using a wider-spaced "eke" in the winter. (*d*) I should also thank you if you would kindly give me the scientific name of the enclosed spray (a variety of heather, I think), and inform me if it is a good honey-producing flower.—A. G. W., *Scarborough.*

Reply.—1. We should not advise your proceeding as proposed. Let the bees travel in the hive along with the queen, and with care two persons could easily lift a hive on to a four-foot wall and over it. Extract the honey (not too closely) and return the boxes of frames the evening prior to starting for the moors. 2. If

the hives have either metal ends or broad shoulders as distance guides the simple fastening down of the surplus boxes to the body of the hive makes the frames secure and also "leaves a level surface above them." 3. We cannot commend your plan to let the frame ends rest in notches in the hive side. It is going backward twenty-five years in hive-construction and would not be tolerated by any bee-keeper who studied ease and comfort in manipulating. If you purpose constructing a hive specially for taking to the moors, read *B. J.* for March 31st of last year, p. 126. Your closing queries *a*, *b*, *c*, and *d*, are covered by above reply. The spray of heather sent is commonly known as "bell heather." It is not the true "ling" (*Erica vulgaris*) nor is it nearly so good as a honey plant.

[830.] *Bees and Brace Combs.*—1. Why should bees build comb to fill up holes in zinc queen-excluder instead of working in shallow frames given above? One of my stocks began so to do and so I changed the shallow frames for one-pound sections, with the result that bees began to work very, very slowly in the said sections. Again, I put the shallow frames removed from No. 1 hive on to No. 2 hive with the result bees worked well in them for a week and then left them, and began to build up from the top of brood frames round the bottom of shallow frames. I have half-sheets of foundation in shallow frames and the bees did not one half fill that out and had stored no honey when they left them as stated above. 2. I would be glad also if you would tell me what would be the result of a loss of a frame of brood from a good strong stock about the end of June; because, having noticed a large cluster of bees on the outside of hive, I fancied they were inclined for swarming, and in taking out a frame to find queen-cells to cut out, the whole of the comb, which was full of brood, fell from frame. Not knowing what else to do I buried comb, honey, and brood, and replaced with a frame with half-sheet of foundation. — IGNORAMUS, *Hemel Hempstead, July 5th.*

REPLY.—1. We presume the queen-excluder has been raised some distance above the top bars of brood frames and the bees have filled up this space with comb. This is why we advise that the excluder should lie *directly* on the frame tops. If the combs in brood chamber are built properly in the frames the bees will not continue them *upwards*. It was not good practice to take away the shallow frames and give sections. Had the box containing the former been snug and warmly packed, the bees would not have refused to work in it. No doubt the peculiar season and the intermittent honey income has caused the stoppage of work complained of. 2. The result would simply be the loss of as many young bees as were sacrificed in the brood destroyed.

[831.] *Scarcity of Drones.*—1. One of my hives has not swarmed yet, although there is plenty of worker brood, but not a single drone nor any sign of drone brood. How is this? 2. Will the above hive swarm, although there are no drones in the hive? 3. Would it do to make an artificial swarm of the above, and introduce a laying queen?—R. G., *Renfrewshire.*

REPLY.—1. The remarkable scarcity of both swarms and drones this year has been much remarked on, and we cannot explain it, except as one of the many curiosities of an abnormal season. 2. No. 3. Yes, if the operation is carefully carried out.

[832.] *Returning Wet Combs and Bees Fighting.*—I extracted the honey from two hives on Saturday night, the 1st July; they were supered with standard frames, and I returned the frames after extracting. I was horrified to find on the following morning that the bees of one of the colonies were nearly all slain!—fighting amongst themselves, and still fighting went on all the day, and I could not stop them. 1. I should be much obliged if you will tell me how to proceed when returning the combs. 2. Is it the best plan to brush the bees into the hive at the top of the combs, or on front of the hives, or on to the alighting-board? I am afraid to extract any more till I hear of a better method. I have to extract from fourteen or fifteen more hives, all glutted with honey; four of them are "Wells" hives, supered four stories high, and nearly all full. Honey is fairly pouring in—the bees are doing uncommonly well. I will let you know more particulars later on.—JOHN HEPWORTH, *Wakefield, July 3rd.*

REPLY.—1. Cases of bees fighting among themselves are very rare, though they do occur, chiefly, as we have reason to think, through returning the wet combs to other hives than those from which they were removed. When removing full surplus chambers, use a super-clearer, setting it on early in the morning, and taking off the cleared chamber the same night. By doing this all excitement of the bees is avoided. Get all surplus indoors, and see that the bees are perfectly quieted down before returning any wet combs for clearing up. Then try one box only, setting it on at nightfall. Watch the result next morning, and if no disturbance has followed, get all done in the same way; or you may let one or two stocks do all the "clearing-up," if they do it quietly. 2. We fear the brushing off bees, &c., has been the root of the trouble. The super-clearer entirely avoids this, and the bees are not disturbed in the least by robbing them of their honey.

[833.] *Re-queening Stocks.*—Some eight years ago I bought an Italian queen-bee, and introduced her successfully, and soon I found the Ligurians displacing the English bees, and in a short time I had a strong stock of Ligurians, which wintered well, and the following year yielded a good lot of honey. But now my troubles began; they swarmed, and I lost the swarm, and the new queen mated with an English drone, I suppose, and her progeny are vicious in the extreme. I am anxious to get rid of all cross-bred bees, and to keep only English

ones, but I do not like to destroy the stock. Could I do this—1. By taking a frame or two of black bees, brood, and eggs, and placing these in an empty hive with four or five combs from which the honey has been extracted; then set this hive and combs of brood on the site occupied by the Ligurians, removing that fifty or sixty yards off? The flying bees would go to the old stand and raise a queen from the black brood. There are very few Ligurian drones, so that the chances are that the young queen would mate with the English bees. Or, if this does not answer, could I do exactly the same, but introduce a fertile black queen instead of letting the bees raise one? 2. I assume the old Ligurians would die out, and be replaced by English bees?—S. CHIVERS.

REPLY.—The *safest* course will be to introduce a fertile queen after removing the Ligurian, without further disturbing the stock. 2. Yes.

[834.] *Renewing Combs and Giving Young Queen.*—One of my hives has not swarmed for three or four years, and the combs are old, badly distanced, and all sorts of shapes. I caught sight of the queen at the beginning of June, when I put on a crate of sections, and she seemed weak by the tottering way she moved on the comb. Last year I only got seven sections with honey, and at present about half a dozen are filled. The bees have had an abundance of stores but do not seem to "pull up." I fancy they are a poor strain. Could I do the following, and would it be correct? (*a*) Take off crate and kill the queen; (*b*) get young queen from dealer and introduce; (*c*) few days after remove hive and put in its place another with frames fitted with foundation and sweep bees into it.—TYRO, *Bideford, July 6th.*

REPLY.—The "fault" of the plan it is proposed to follow is that the newly introduced queen is liable to be balled by her new subjects in the excitement of transferring them to the new hive, otherwise it would work out all right. If you do not care to run this risk, an alternative plan would be to get the bees and old combs into the new hive and then remove the old queen and leave matters till queen-cells are formed and most of the sealed brood is hatched out, say, for eight days; then move the old combs and give sheets of foundation instead, and after the bees have settled down quietly introduce the young queen.

[835.] *Raising Queens.*—1. I have an ordinary bar-frame hive, with eleven frames in brood nest, and a crate of twenty-four pound sections on. The stock is, I think, quite up to average strength, but has not swarmed yet. Several dozen of drones were killed two weeks ago. I do not know age of present queen, and should therefore wish to rear a young one. Also I should like to make a swarm if you think it advisable. 2. Would it be practicable to raise a queen by putting a dummy between the frames in brood nest? If I put five frames and present queen on one side of dummy, would the bees on the other six frames (finding themselves queenless) raise queen-cells? 3. Would this plan interfere with work in sections? 4. Also, when queen-cells were built, could I not make an artificial swarm, removing old queen, leaving one or two queen-cells with old stock, and giving one or two queen-cells to artificial swarm? Hoping you will excuse the trouble I am giving, as I am but a one-year bee-keeper, and thanking you for the valuable hints in *Bee Journal*—NOVICE, *Rochester.*

REPLY.—We have already given our views on this point. See reply to "T. P." (p. 276). 2. When drones are killed, and bees have given up all idea of swarming for the year, it is not safe to try any such experiments as those referred to. Queens are no use unless safely mated, and it is best to keep the fertile queen you have than risk having a useless drone-breeder on hand. 3. It may be taken for granted that "work in sections" is now ended for the season in Kent. 4. Reply to No. 2 meets this query.

Bee Shows to Come.

July 19th.—Cranleigh and District Bee Club Show at Cranleigh. Prizes for honey, hives, &c. For schedules, write John Charlwood, Secretary, College Road, Cranleigh.

July 19th to 21st.—Lincolnshire Agricultural Society's Show at Stamford. Bees, honey, hives and appliances.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle. Entries close July 14th. Over 6*l.* cash in prizes. Special facilities offered to distant exhibitors. Schedules from James Brown, Hon. Secretary, 42 Baldwin Street, Bristol, or from local Secretaries.

July (date not yet fixed).—Berks B.K.A. (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. £50 prizes. Schedules now ready. John Wishart, Assist. Sec., Market Place, Melrose. Entries close July 19th.

July 26th, 27th, 28th.—Lancashire and Cheshire B.K.A., in connexion with the R.M.L. and N.L. Agricultural Society's show at Blackpool. Entries closed.

August 1st and 2nd.—Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries closed.

August 7th.—Berks Bee-keepers' Association, Newbury District, in connexion with the Flower Show in Shaw Avenue, Newbury: 11*l.* cash prizes. Entries close August 1st. Hon. Secretary, W. Hawkes, Newtown Road, Newbury.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 12th.—Wotton-u-E. District Annual Show of Honey and Cottagers' Flower Show. £20 in prizes. Entries close Saturday, August 5th. Schedules of G. Gunston, Hon. Secretary, Bradley Green, Wotton-under-Edge.

August 15th and 16th.—South of Scotland B.K.A. at Dumfries. Wm. Wilson, Secretary, Acrehead House, Dumfries.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

BEE-KEEPER (Hunts).—*Failure to Find Queens.*—There is no method we know of by which a bee-keeper can hope to make artificial swarms successfully if he is unable to find queens, except by enlisting the help of some one who possesses more quickness of sight. To find the queen is the crux of artificial swarming in frame-hive management.

KENTISH BEE.—The Hon. Secretary of the Kent Association is Mr. Jesse Garratt, Meopham, who will no doubt supply the information required. 2. Yes; but patching up old combs into frame hives is now falling into disuse, new, straight combs being much better. 3. If it is desired to transfer the combs into "standard" frames," the only way is to cut them out of the frame they are now in, and tie them into the "standards." 4. You cannot "drive" bees from a frame hive; they must be brushed or shaken from the combs.

A. HAMER.—*Samples of Honey.*—Honey is good in colour and consistency, but much too yellow for "white clover honey." The flavour also shows a decided admixture of nectar from other sources than the one referred to. It is good honey, but the flavour cannot be called first class.

W. W. COX.—The contents of comb is almost wholly honey-dew, and as such we should leave it for the bees' consumption.

A CHESHIRE FALCON.—*Reducing Stocks.*—We should advise *selling* the surplus stocks. To join six into one or even two at end of year would be a waste of bee-life. There should be no "difficulty" in selling if you offer them cheap enough and advertise them in our columns.

ROBERT THORPE.—"Enclosure" promised was, we suppose, inadvertently left out of the envelope. Kindly write us again.

J. MACKINTOSH (Hexham).—The queen sent presents all the appearance of having been "balled," consequently her markings have more or less disappeared, along with her pubescence or hairiness. She looks like an adult hybrid Ligurian, but the rough experience gone through gives her body a much darker appearance than is natural.

W. WILKINSON COX.—The sample of honey sent consists largely of honey-dew, and as such it is unsaleable as a table honey, though good enough as bee-food.

R. GREENWELL.—It is impossible from mere inspection of dead bees sent to say what has caused the mischief. If, however, the stock is well populated, and the brood is hatching out all right, we have no doubt the trouble will be only temporary, and will soon cease.

W. H. WILLIAMS.—*Uniting Driven Bees.*—Bees, after being driven, may be so mixed and shaken up together in a skep that they will unite in frame hive without fighting.

C. T. (Moseley).—Comb is quite free from foul brood. The cells contain only honey and pollen.

G. SMITH (Derby).—We like the bees marked No. 1, but would be guided by the working qualities of the bees in each hive rather than by the appearance, and the bee-keeper himself can best judge of this on the spot.

R. AULD (Bath).—*Honey Samples.*—The "appearance" of honey sent, which you do not like, is very fair, as is the consistency, the flavour being its weak point. This is not by any means first-rate, though it will make a good marketable honey when granulated.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BREREETON, Pulborough, Sussex. f. n.

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

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JUST WHAT YOU WANT! Screw-cap Glass Honey Jars, English make. Strong, handy, easy to bottle, easy to use. 13s. a gross F.O.R. Packages Returnable. Send five stamps for sample. Address GARNETT, 18 Steade Road, Sheffield. A 95

OFFERS WANTED for quantity of very Choice Sainfoin Honey, extracted from Super Combs built this Season. Free Sample. Address KIGHT, Chiseldon, Swindon. B 8

EXTRACTED HONEY, 6½*d.* lb. In cans. Very fine White Clover Honey, Comb Honey, 8½*d.* Address G. R. DOWNER, Drayton Manor, Chichester. B 9

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FOR SALE.—Three Stocks of English Bees for the Heather Season. For terms apply to GEO. PARKER, 2 Bradley Street, Wotton-under-Edge. B 12

FINEST ENGLISH HONEY, in ½-cwts., at 9d. per lb. Tins free. Sample 2d. Deposit System. Address R. DUTTON, Terling, Witham, Essex. B 13

WANTED.—Good Modern Cylinder Extractor. Address WHITE, 47 Ombersley Road, Newport, Mon. B 14

WANTED.—Good Modern Cylinder Extractor. State make and lowest price to FISHER, Rycroft Glen, Abbeydale, Sheffield. B 15

SECTIONS.—Wanted, First Quality Sections, any quantity. Also Extracted Honey. Address NYE & SONS, Western Street, Brighton. 143

SIMMINS' MODERN BEE FARM. Beautifully printed on Toned Paper. Profusely Illustrated. 270 large 8vo. pages. Giving great satisfaction. Only 2/9 Post free. Address S. SIMMINS, Seaford, Sussex.

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung, Robbing, and Bees entering Cones, &c. Price 1s. per bottle, in handsome, coloured Postal Boxes. Samples of Bee-Smoke Cartridges, 3d. Address T. HOLLIDAY, Astbury, Congleton. 131

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HONEY SHOW,
In BURGH HALL, DUMBARTON,
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Schedules from J. WALKER, *Sec.*, 74 Main Street, Alexandria, N.B. 140

NORTHAMPTONSHIRE
BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW, August 7 & 8, 1893.

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SPECIAL PRIZES, Open Free to the United Kingdom. For the BEST Single 1-lb. SECTION OF HONEY. First, 20/-; Second, 15/-; Third, 10/-; Fourth, 5/-; Fifth, 2/6. Competitors not present will be informed of result by post on the first day of the Show. Prizes forwarded to Winners same day. Entries close July 25th.

N.B.—All Entries for the above are to become the property of the Hon. Secretary, and will be sold for the benefit of the Widow and Five Children of the late Mr. H. RINGROSE, of Boughton, one of the first Subscribers to the Association.

For further particulars and Schedules apply to ROBERT HEFFORD, Hon. Sec. Northants B.K.A., Boughton, near Northants. 117

THE SEASON, 1893.

AT last the unparalleled drought is at an end! Beginning with the first Spring flights of our little industrous workers and practically continuing until the first week in July, this most remarkable period of dry weather has been most destructive to the British Farmer, while for the Bee-keeper it has been the most glorious season known to the present generation. But, now, terrific thunder and lightning, with bursting clouds, have deluged our thirsty land, so that the weary, long-tried tiller of the soil may again look forward with hope, and the Bee-keeper continue on his honeyed way, rejoicing that for once at least all the elements have combined to forward his pursuit.

And yet—yes, and yet!—has the average Bee-keeper once thought that there may, after all, be a black side to his hitherto joyous journey? What means the absence of swarms; the only slight, or non-increase, of numbers? What will he do without young queens? and what of those old queens that with such a lengthened breeding season are fairly worn out? Think you, will such carry their stocks to Winter? They may do, but with such bees as will never see the Spring!

The folly of allowing the brood-combs to become clogged with honey; the causes of reduced population, and the reason why a glorious season like the present will, in its results, be only an average season to the many, are subjects we have not room for here, though fully explained in the 270 pages of "A MODERN BEE FARM," but we can say, and emphatically, that only Young Queens will pull the average stock through in proper form for another season's work.

If you want our Prices, do as others are doing every day, and send for our REVISED LIST. Already inquiries are coming in for quotations in quantity, which proves that some at least are becoming alive to the necessity of pulling their stocks together by using the best blood obtainable. Please address all inquiries to

S. SIMMINS, SEAFORD, SUSSEX.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 578. Vol. XXI. N.S. 186.] JULY 20, 1893 [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER. — Whatever particular bee-keepers may have suffered because of the interruption to super-filling by the recent rains, agriculturists have benefited immensely thereby, and it is to be hoped that few will grudge the small individual loss to bee-keepers when so large a majority have been gainers. Here in the south all further increase in the honey yield may be considered as at an end, so that measures may at once be taken for winding up the season and thinking of the future. In the north present conditions wear quite a different aspect for the time, and if the favourable reports of what is being done now on the clover by bees is followed by a fair amount of success at the heather, it would seem quite possible that 1893 will stand recorded as one of the best honey seasons experienced in the north for many years. Mr. Lamb's report from Yorkshire on p. 273 of last week's *B. J.* is a remarkable one. Starting with thirty-one hives, spring count, and standing on July 10th with an increase of eleven stocks, from which fifty supers of twenty pounds each have already been removed, together with seventy-five more of equal weight now on the hives, and a fair chance of all being filled, is a condition of the bee account which does credit to Burton Pidsea, Hull, as a honey-producing district, and to the bee-keeper who is able to reap full advantage from it.

SCARCITY OF SWARMS AND YOUNG QUEENS. —The difficulty of raising young queens in the autumn of this very abnormal season seems never to strike bee-keepers of limited experience. It seems to be taken for granted that a stock may be left to gather surplus honey so long as any is to be had, and that it is then but necessary to remove the old queen in order to have young ones reared and fertilised as they would be in June or July. Some who act on these lines may — owing to certain fortuitous circumstances—happen to succeed, but the chances are many that failure will result. Not a few of those who propose killing off old queens and re-queening, do so without taking into account whether there are any drones about at all, and even those who don't overlook this important point are apt to forget that when the poor drones receive the remorseless note of warning that their time has come, and that the worker-bees are about starting to harry them to death, they pass the last days of their lives in a state of terror, and at such times the difficulties of getting young queens mated are correspondingly increased. There are, of course, means to lessen this risk, such as preserving drones in normal condition in special hives by continuous feeding, and if amateurs take this precaution—as queen-breeders are compelled to do—all may be well, but we have had frequent occasion of late to caution those who overlook some of the essential conditions necessary for successful queen-raising in autumn. Those who risk removing adult queens, and trust to the chance of raising successors, will do well to preserve the old queens until such times as good queen-cells are found in the hives from which they have been removed.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised :—

	£	*s.*	*d.*
Amount already acknowledged ...	33	2	6
Miss Beach	0	10	6
Rev. Dr. Bartrum ...	0	10	0
Geo. Wells	0	5	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

ON MY WAY TO THE WORLD'S FAIR, CHICAGO.

[1494.] I left home by an early train on Wednesday, the 12th of May, arriving at Liverpool about midday, going on board the s.s. *Ohio* at her dock at three o'clock, the time appointed for passengers to be on board. Unfortunately a very low tide prevented the steamer getting over the dock sill that afternoon, and we had to remain on board and sleep (not being allowed on shore), and wait until the next tide. We made a good start early next morning, and in due time reached Queenstown, where more passengers were taken on board, making a total, all told, of more than a thousand.

We had a quick and pleasant passage, no excuse for being sea-sick, and arrived off Cape May in New Jersey State, which is about ninety miles from Philadelphia, on the evening of the 23rd of May. Here our troubles began. When the steamer stopped, the yellow quarantine flag was hoisted, and after medical examination of all passengers and various vexatious delays, involving a loss of two days, owing to the strict quarantine regulations, we were landed at Philadelphia, where I found my son on the wharf anxiously awaiting me. The steerage passengers, about 800, were kept in quarantine more than a week after we left.

THE PHILADELPHIA BEE-KEEPERS' ASSOCIATION.

After a few days' rest I sought out Dr. Townsend, President of the Philadelphia B. K. A., who, I was told, took a leading part in all bee matters. I was cordially received by him at his house in Vine Street, and had a very pleasant chat with him for about an hour. Before leaving he gave me an invitation to the next meeting of the Philadelphia B. K. Association. The day not then being fixed, Dr. Townsend said the Secretary would send me notice of the day and hour, which he did, and on the 12th of June at eight o'clock I found my way to the meeting, which was on this occasion held at Dr. Townsend's house.

The following members were present:—Dr. Townsend (President, in the chair), Mrs. Aarons, Miss Creed, Miss Johnson, Mrs. Townsend, J. Shallcross, Esq.; Messrs. T. L. Davidson, Lindsay, Langaere, Turner, Savage, H. M. Twinings, Mr. F. Hahman (the Hon. Secretary), and others whose names I did not catch. After the routine business of the meeting, those present were asked to report the amount of honey they had so far taken, and the condition of their bees. All said the bees were doing well, and that white clover was plentiful and in full bloom. Miss Creed, of New Jersey, said she had taken 325 pounds of extracted honey from seven hives. Other good takes were reported. Several had hives storied three and four high, and there was a consensus of opinion that it would be a good season. The business of the meeting over, the remainder of the evening was spent in a pleasant description of English and American systems, and advanced scientific methods of manipulation, in which all appeared to be greatly interested, and the meeting, though not a large one, was evidently composed of enthusiastic bee-keepers, none of whom made a business of keeping bees for profit only.

This Association, I am informed, has not a large number of members; it has had many more than at present. Some are dead, others have gone away, and many, who have benefited by the Association's teachings, think they have no further need of instruction, and it is only by the energy of the President and the Secretary that this Association is kept going.

Since I have been in Philadelphia I have endeavoured to find out bee-keepers, that I might have more opportunity of judging of bee-keeping in America in comparison with that of our own country, and I am much disappointed to learn that there are none who have any large number of hives, or keep bees other than for pleasure within a considerable distance.

By the kind invitation of Mr. F. Hahman, accompanied by Dr. and Mrs. Townsend and Mrs. Aarons, I visited his apiary at Harrogate, near Philadelphia, about half an hour's ride by the Philadelphia and Reading Line, arriving there about 2.30. Mr. F. Hahman resides with his father in a picturesque old house surrounded by land, trees and greenhouses, they being wholesale florists, supplying the trade of Philadelphia with plants and cut flowers.

The bees are placed on one side of the garden, on higher ground overlooking a meadow, neatly arranged in a continuous line. The hives in use were of two kinds, Root's Simplicity and Root's chaff hives. The entrance floor-boards were on the ground, which was covered with cocoanut fibre, so that there were no weeds. Mr. H. had not so many colonies as he used to have, his time being so much occupied otherwise. We examined some six or seven stocks of Ligurians. They were some of them very strong, being three and four stories high, each containing ten frames of Langstroth size; the hives when storified had combs in the frames. Mr. H. works for extracted honey only, and prefers leaving his honey in the hives, and not extracting from time to time, as some others do, preferring to leave his bees undisturbed as much as

possible and extracting later, when he is less busy and the bees have collected their chief harvest. Some of these colonies were the *most beautiful bees* (Ligurians) I have ever seen, the drones and bees being nearly all yellow—what are usually called five-banded bees; they were quiet and good workers. They are all wintered on their summer stands. We had a lot of bee-talk, some refreshment, and altogether spent a most enjoyable afternoon.

The weather out here is dreadfully hot; yesterday the thermometer was 93° about 1.30, and the day before it was up to 98° *in the shade*, and they say it will be hotter next month.—JOHN M. HOOKER, *June 22nd*, 1893.

NOTES BY THE WAY.

[1495.] The pleasant break in the weather is very acceptable to every one, especially to the farmers, who were at their wits' end to provide provender for the cattle, some even having to cut the branches off the trees and the outsides of the fields and under the hedges to procure a little green food for the cows, whose daily supply of milk was a diminishing quantity. But the fields and meadows are getting quite green again, and even in the short space of one week there is a nice feed for the cattle, and also a resuscitation of the white clover plants. Patches by the roadside, which a week back were seared and brown, are now a vivid green, with flower-buds ready to burst into bloom, so that our busy bees will have some little gleanings to carry on the work of brood-raising before going into winter quarters. There is a general complaint amongst bee-keepers that the limes produced but little honey this season, in some cases only three or four days from the time the bees began working on them till all was over for '93. In my immediate district I don't believe the bees worked on the limes over a week, although we have two kinds of the species; one comes into bloom generally a week before the other, but this season both bloomed simultaneously.

Judging Bees.—Every season for some years past, the question of the markings of bees crops up in some shape or form. Disappointed exhibitors have written me for my opinion on certain points, and I think that, now we are in the thick of the fight as regards competition in bees at the various shows, it would be an opportune time to get the matter settled. But the question is, how shall the thing be done? I would submit the following proposition to our men of light and leading—that bee-keepers be invited to send a small sample box of living bees to the office of the *Bee Journal*, and that a few of our veterans who are in close proximity be asked to give their opinion on the races of bees submitted to their judgment. The senders can get a small box from any jeweller for a penny, and, to prevent starvation by the way, crush a lump of sugar and mix it with some honey; now put the candy into a little piece of muslin or strainer cloth, and a tack will hold it firmly in one corner; then, in other end of box, pierce several holes with a fine bradawl. When wrapping the box with letter do not cover the pierced end of box. The senders to mark the boxes sent with their name and address and a number on the box, but not stating the race sent. This will be an education for our judges, and may prevent mistakes at our future shows. (Perhaps our Editors will give us their views as to the feasibility of the proposition.)

Useful inventions connected with the craft should, in my opinion, have a full written description of their use, and also to what extent their usefulness has been practically tested—or even better, the inventor should be invited to give the judges full explanation of the device and the use it is intended to be put to. Friend Dixon no doubt lost a medal through not attending to this point with his self-hiving arrangement. I say nothing as to its utility—*that* will be proved by his customers when we get a big swarming season. This has not been a season for swarms, consequently we have had no "boom" in self-hivers; but that will come, and I have no doubt we shall overcome the swarming difficulty as completely as we have the supering and super-clearing. Twenty years ago who would have prophesied that honey would be produced by the ton, built in small boxes by the bees themselves ready weighed and almost ready for the market, or even so recently as the Queen's Jubilee year that in 1893 we could have those same crates of sections, that were a few years ago so much trouble to many to clear of bees, mechanically cleared of every bee, ready to remove to the store-room. If these difficulties have been surmounted why not our swarming difficulty? My argument is that if any device can be proved to hold the colony of working bees together the bee-keeper gets the advantage of their labour, no matter if the device that holds them together be Alley's trap at entrance, Langdon's device at the entrance of twin colonies that work into one common super—work on and work off, Pratt's self-hiving arrangement, or Taylor's revolving platform on which four hives are moved one position every day. If the colonies are kept straight at work the entire season the bee-keeper must reap the advantage in increased output of honey at the end of the season.—W. WOODLEY, *World's End, Newbury.*

[Our experience in the line suggested leads us to the conclusion that, excepting for deciding whether sample bees sent could be called pure specimens of a certain race or otherwise, there is not much to be gained by submitting "samples." If bees are crossed at all the markings are rarely uniform. And it is quite certain that a dozen hybrid bees might be sent from one hive no two of which would be sufficiently alike to warrant the opinion that they were the offspring of the same parents. It is easy for competent judges to say bees are well-marked Ligurians or Carniolans or natives, but directly hybridising comes in, clear definition of how certain markings are got becomes extremely difficult, if not impossible.—EDS.]

ON THINGS IN GENERAL, AND BEES IN PARTICULAR.

[1496.] We live, or ought to live, to learn. One of the delights of the bee-fancy is, that the subject is never exhausted—there is always something to learn. Bee-keeping, whether considered as a science or an art, is always making progress. It is true many inventions, regarded as new, are reanimations of old ideas which, tested by time and experience, have been laid aside and forgotten for a while. Still, bee-keeping makes steady progress; yet, is there not room for a further advance? Who, for instance, can fully explain the question whether bees are capable of hearing sound, and will dare to dogmatise upon it? I have no doubt whatever but that they are quite capable; an opinion, however, is quite distinct from a proof.

These remarks are occasioned by the fact that a firm of grocers, who take a large amount of my honey, have been urging the importance of selling honey in half-pound sections. They argue that a great many persons can't, or won't, find a shilling for a pound of honey; they don't want, perhaps, as much as a po ind; but a half-pound, in a presentable condition, such persons would buy. As my friends have a large trade, their opinion is of value, and perhaps some of your correspondents will give their views on this point.

Did ever any bee-keeper know such an abnormal year as this has been? The skeppists assert that this is about as bad a season as could be, for they have had no swarms, and so they have no honey to take up. Yet the amount of honey in my neighbourhood, that might have been gathered from the white clover a mile or two distant, was something enormous. This sudden influx of honey from the clover crop coming on so quickly may explain the extraordinary absence of swarms. The honey came in with a rush just as the bees were likely to swarm; the harvest had come, it must be gathered at once—all thoughts of starting for a new home must be abandoned. So full of honey, indeed, were many of the brood combs in my hives that, instead of extracting, I removed the excluders, and allowed the bees to breed in the upper stories. Some sections, of course, have been spoilt, and also some of the shallow frames; yet, after an interval, when the brood is hatched out, the cells are probably filled with honey, and add to the harvest obtained by the extractor. The number of bees has not, therefore, dwindled to any great extent, and the queen was able to exercise her benevolence at a time when all her subjects were in the best of humours, and as busy as only bees can be.

I am glad to see that you insist, again and again, on excellence as essential to the sale of honey. People generally are so accustomed to the best of everything that nothing inferior or unattractive will fetch a good price, or, indeed, be often saleable. Old and dirty section-wood does very well for the winter fire, but it ought not to occupy the bee-house. The dividers, too, are a matter of importance. I am afflicted by having various old racks, bought at intervals, and differing, of course, in size. If the dividers don't fit precisely as they ought, the bees are certain to punish my carelessness, and to spoil the sections for sale purposes.

Bee-keepers need to make the public better acquainted with the many virtues of pure English honey. Mr. Bancks has done us all good service by the excellent little pamphlet which he advises us to distribute. But something shorter, something that will attract the eye and perhaps convince the reason, placed conspicuously in a shop window, would make our English honey better known. We want a Cadbury or a Pears to puff our wares and to make them more appreciated.

May I congratulate the *Journal* on the disappearance—at all events, for a time—of the foul-brood panic? Foul brood, no doubt, is an awful scourge, but it needs no Act of Parliament for its abolition. Constant cleanliness, Naphthol Beta, persistent use of naphthaline in the hives, and of disinfectants (especially the fumes of sulphur) applied to every article in the apiary not in use at the end of the season—these seem sufficient to cope with a disease not long since regarded as almost incurable. But have bee-keepers learnt yet the best of all cures for sun-stroke and stings? A very learned medical friend of mine, though he most sensibly wears a good broad-brimmed hat in hot weather, on his return home after any exposure, bathes his head, especially the back part of it, in cold water. This simple remedy is equally good for stings. Are you stung? Pull out the sting at once, and plunge your hand into a pail of cold water or put it under the tap, keeping it there for some time. If the bee has attacked your proboscis, or succeeded in assailing any part of the body which cannot be put into a pail, at once apply a sponge wet with the coldest water you can get, and repeat the application again and again. I am a great believer in the cold-water cure.—E. Bartrum, D.D., *Wakes Colne Rectory, Essex.*

FOREIGN HONEY.

[1497.] I should like to call your readers' attention to the sale of foreign honey, and at the same time ask, "Why should it not come under the Trade Marks Act?" A friend of mine went to a local town a few days ago to try and find a market for his honey. Ninepence per pound was his price. He called upon six tradesmen, and in five cases he was told that the foreign article could be bought at sevenpence. When he inquired what they sold it as, he could get no answer. I maintain that the whole thing is a fraud. The retailer buys at sevenpence, and sells at one shilling or one shilling and twopence per pound. The customer gets honey he knows not where from—probably in nine cases out of ten imagining it to be of British origin. We all know that the average

Briton prefers the production of his country to that of any other, and if the British and foreign article were placed side by side, properly labelled, I have no doubt which would sell most readily, especially when the foreign is charged at what would be a good price for English. I maintain that it is the middle-man who profits by the sale, to the great detriment of the home producer and consumer. I would like special attention of the B.B.K.A. called to this matter, and trust they will exert their influence upon the proper authority to show the importance of having such honey placed under the Trade Marks Act.—ENOCH WILLIAMS, *Stourport.*

[We should be very pleased to render any assistance in our power for preventing foreign honey from being sold as "British." Unfortunately, however, the question is beset with difficulty, and in the case referred to it does not appear that the foreign honey *was* sold as British. Our experience of the foreign article is that it is usually sold retail at about eightpence or ninepence per pound, and this is where the competition with the home-produced article becomes a hardship. If the tradesman asked so much as one shilling or one shilling and twopence per pound, the consumer would be more likely to see that he got a good article for so high a price.—EDS.]

THE SEASON IN SCOTLAND—BEES FRATERNISING.

[1498.] I do not think I ever saw such a year. I have already got from two hives (or rather what you would call one hive), 150 pounds beautiful, well-sealed two-pound sections, no swarms, but each division has taken possession of an empty hive in addition, placed ready for a swarm. The bees in these outside hives are gathering honey, and I have given each hive a frame with some worker eggs. When I last looked one had two queen-cells and the other one. Both of these must now be hatched, and some pollen is going in, but I do not want to disturb them yet.

You know my glass arrangement over the entrances and hives on right and left of the wide passage. I am leaving the passage through the division between the entrance chambers entirely open, except just now, when I may expect the young queens in the end hives to mate, which is at present. I now make the entrances to the end hives, and only allow one-inch opening in the divisions, to prevent the young queen going through. The bees of the two entrances fraternise perfectly, passing constantly from one to the other.—F. M. C.

A SWARM OF BEES ON A RIVER BUOY.

[1499.] Please find enclosed cutting from Garston local paper. Mr. Hughes came to me, and being unable to leave my business just then I lent him a straw skep, smoker, &c. After giving him instructions how to proceed he went, and in about an hour brought the bees up. I have put them in a frame hive, and they are doing remarkably well. I may say the River Mersey at this point is about one and a half miles across.—SAM G. HILL, *Grassendale, Liverpool, July 16th.*

[The cutting referred to reads as follows:—EDS.]

"An extraordinary discovery was made at Garston, near Liverpool, last week. Captain Rathbone and Mr. John Hughes were out in a boat, when they noticed a swarm of bees on one of the buoys about 500 yards from the shore, lying opposite to Cressington Park. On approaching the buoy they found the bees clustered together on one side about three inches thick. Mr. Hughes rowed to the shore and procured a hive from Mr. S. Hill, in Aigburth Road. It was, however, with difficulty that the gentlemen were able to get the bees to take to the hive, which they eventually did, and covering them up they conveyed them to Mr. Hill's, at which place they have now settled down. Such an extraordinary place for bees swarming has rarely, if ever, been heard of before."

CURIOUS EFFECTS OF A BEE-STING.

[1500.] A few days back my wife was in the garden near my hives, and as one bee pitched for its hive, it alighted on her head, and got entangled in her hair, which caused it to sting her. Being close by, I at once pulled out the sting, and anointed the part with liquid ammonia, which I find, as a rule, acts best in such cases. The sharp pain usually following a sting ceased, and a burning sensation, with slight swelling, followed, but this soon passed off. About thirty minutes afterwards, however, my wife was taken with a severe pain at the lower part of the abdomen, followed by profuse perspiration and faintness. The symptoms being rather alarming, I called in our doctor, but about the time of his arrival, the pain began to abate (he prescribed). It had lasted about two hours; she was left in rather a weak state till towards evening, when she regained her usual health. I should be glad to know if you, or any of our numerous bee-keepers, ever experienced similar effects from a bee-sting.—E. WOOD, *Balham, July 15th.*

[It is impossible to account for the very curious effects of a bee-sting upon some persons at certain times. No doubt the state of the blood has something to do with it. Fortunately such occurrences are extremely rare.—EDS.]

Echoes from the Hives.

Laurencetown, co. Down, July 4th.—As I mentioned in a former letter, the season has fairly eclipsed all previous ones in my experience. Everywhere very large yields of honey. In my own apiary, from an ordinary stock, I have

already taken forty-eight pounds of section honey, and it has another rack of sections ready for removal. Surely we shall not hear of any grumblers this season, when the country is literally flowing with honey!—JOHN D. MCNALLY.

Llandaff, July 5th.—Section racks taken off five hives a fortnight ago all full, and some fit for show.—C. P.

Penarth, July 6th, 1893.—My best hive has already given me seventy pounds of extracted honey, and has now on a surplus chamber with nine standard frames very nearly full.—S. C.

Queries and Replies.

[836.] *Bees and Combs in Hive-roof.*—A friend of mine has applied for assistance, and I am in a fix how to advise him; the circumstances are as follow:—He has a bar-frame hive (ten bars), with eke capable of holding the crate of sections and roof; the eke overlaps the body-box, and roof overlaps the eke (that is, there are no plinths). He hived a swarm two years ago, and forgot to put quilts on body-box, so that now the whole concern is one mass, and very strong. Now he wants the honey of this hive and the body-box with bees, if possible. He has a skep beside this hive. Please say how I am to advise and assist him.—J. B., *Perth, July 12th.*

REPLY.—Nothing short of an inspection of the hive would enable us to give reliable advice as to the best course of proceeding. If the roof could be partly taken to pieces, the bees might be driven down by smoke, and the combs cut out piecemeal, but it will be a difficult task to deal with, and the help of some experienced bee-keeper should certainly be called in.

[837.] *Supering and Re-queening.*—1. How many standard frames should a strong stock of bees contain during the summer when working in supers? 2. How many supers should be on at one time? 3. How many thicknesses of house-flannel should be laid on the top of supers, and should the space between the outer case and the supers be stuffed with warm material to keep in the heat? I have a very large, square hive, holding four separate stocks, each to hold twelve standard frames and dummies, four entrances, two facing east and two west. I put four stocks into it last autumn, thinking the one would keep the other warm, and that they would certainly do well. I examined them in spring, and found that the wooden separation had warped so much that the bees got through, and two of them united together; the other two were all right. 4. Would it be more profitable to keep them in this sort of hive than in single ones, and would perforated tin do to separate the hives inside? 5. We got an Italian queen this season, and introduced her to the young bees of an artificial swarm by caging her forty-eight hours. When we examined the hive a few days afterwards, we could not find her, and the bees reared young queens. What was the cause of this?—ISAAC CRAWFORD, *Co. Tyrone, Ireland.*

REPLY.—1. Ten or eleven. 2. There is no harm in half-a-dozen supers being on at one time if there are bees enough to fill them, and honey is coming in. 3. All depends on the strength of the stocks supered. 4. *We* should expect to make more of the four stocks in separate single hives; but in any case where several stocks are located in one hive each compartment should be bee-tight. Wood is better than tin for the purpose. 5. The "cause" was evidently the death or loss of the queen introduced. But we cannot quite understand your query. A queen must have been in process of being reared when the Italian queen was introduced, and, with ordinary care, there should have been no difficulty in getting the young bees to accept her under such conditions.

[838.] *Rearing Queens for Re-queening.*—I have several hives which I wished to re-queen this year, but having had no swarms have not been able to do so naturally. My best hives, and from one of which I should like to rear my queens, are (1) a bar-frame with two crates of sections on (one almost filled), and (2) a straw skep, which about a month back I placed on top of twelve frames in a bar-frame hive. I hoped the queen would have worked down and laid in the combs, and that I should have been able to rear my queens there, but she has not done so. 1. If I were to drive the bees with the queen out of the skep and put them in the frame hive, and put the skep on a stand, would the bees I should leave in the straw skep rear a fresh queen which I could drive and put in a frame hive at the end of the season? 2. Or would it be better to take the skep away and put in the frame hive below a frame of eggs taken from my best bar-frame hive with the sections on? Will you advise me the best course to take? 3. How late in the season is it safe to rear queens without risk of their not being fertilised?—DRAPER, *Atherstone, July 12th.*

REPLY.—1. We have several times recently referred to the risk of failure in attempting to raise queens so late as this in so very unfavourable a season for swarming. Besides, the fact of the bees in skep not having worked down into the frame hive hardly confirms your view of the stock as a good one for the purpose. If you had a third stock available, the bees and queen of the skep might be driven out and put in the frame hive while the skep and its contents was placed on the third stand (removing the hive from the latter to a new location); then all might go well, and queens be reared in the skep. It is indispensable, however, that there should be drones in the hives, otherwise queen-rearing and fertilisation is impossible. 2. Of the two courses, we prefer the one above. 3. It is, as

we have said, not *safe* to assume that queens will be fertilised so late as this.

[839.] *Moving Bees in Winter.*—1. Does the B.B.K.A. hold an annual show; if so, when and where? 2. Please advise how to remove, during next winter, bees to a new stand, distant about forty yards, and so situated that I cannot move by short distances.—R. C. S., *Eastington.*

Reply.—1. The annual show of the B.B.K.A. is always held in connexion with that of the Royal Agricultural Society. It took place this year at Chester last month, and was fully reported in our columns. 2. Bees may be moved any distance at one operation in winter after such a cold spell as has kept the bees within doors for a week or two.

[840.] *A Beginner's Experience.*—My first experience of bee-keeping was the purchase, last winter, of a swarm that was taken in an old box from off a fruit-tree by a labourer. I gave him three shillings for them for speculation, and made up my mind to keep bees. I drove them from this box—which, by the way, I had to take to pieces — comb by comb. This I did about six weeks ago, but before doing so I had purchased a combination hive (fifteen frames), painted it, and fixed it in position. I also got the maker to fit ten of the frames with comb foundation, and the bees are now, to all appearance, doing well. Quite six or seven of the combs or frames are nearly full: one on the front of the hive is only partially built out. 1. Would it be advisable to put this unfinished comb at the back and slide the others forward? 2. Two of the centre combs were joined when I examined them; I separated them with my knife. Did I do right? 3. How often should I examine them? 4. How much honey is required to be left in the hive to keep the bees safe as they should be? I would sooner go without honey than injure the bees, as I have hundreds of fruit-trees, &c., on my place, but maybe your books will enlighten me.—F. B., *Prittlewell.*

Reply.—1. It is not likely the bees will do any more comb-building this season, but there is no special reason for moving the partly-built comb to the rear. If the frames are fitted with *full sheets* of foundation, we should rather leave the comb partly worked out where it is, and set it in the middle of the brood nest in April next. 2. Yes. 3. We cannot specify how often frames should be examined. The best advice is "never examine them without a good reason for doing so." 4. A stock should have at least twenty pounds of honey to carry it over the winter.

[841.] *Non-stinging Wasps.*—Will you kindly tell me—1. What is the enclosed insect? 2. Can it sting? 3. Do they live through the winter, and if so, what do they live on?—as I find no store of food left in the cells of their nest. There are several nests about the gardens here now. I have handled a quantity and cannot see they have any sting. 4. Will they enter a hive? I have not seen them do so myself, although one nest was very near.—C. P., *Llandaff.*

Reply.—1. Insects sent belong to the dark-coloured variety of the common wasp tribe. 2. They have a sting, but are much less inclined to use it now than later on in the year. 3. No: all die except the queens, which find out holes or hiding-places in which to hybernate till the warmth in early spring rouses them to life. 4. They seldom if ever enter hives; this feature of wasp-life being confined to the more plentiful yellow variety.

[842.] *Honey for Showing—Making Artificial Swarms.*—1. I enclose a small bottle of honey extracted from super last week and should like your opinion on it? Do you think it good enough to take to a show? 2. Is it too late to make three stocks out of two, as recommended in *Guide-book?* 3. What size wire should be used for wiring frames?—G. G., *Cardiff.*

Reply.—1. Honey is very good; quite fit for showing. 2. In view of the scarcity of drones, and the general disinclination bees have shown for swarming naturally, we should not risk making artificial swarms so late as this. 3. Use No. 30 tinned wire.

[843.] *Cutting Queen's Wings.*—1. What age is best for a queen for exhibiting? 2. Does it do any harm to a queen to clip her wings, and when is the best time and the proper way to do it? I think it would prevent her going off with a swarm.—T. B., *Derby.*

Reply.—One-year-old queens generally look best. 2. We do not at all like the plan of mutilating the queen in the manner stated. It is a cruel practice, and we don't think it answers its purpose so well as many appear to think.

[844.] *Scarcity of Drones.*—I have seen some remarks on the scarcity of drones this year. I can only say that some of my hives are full of them. I can at any time count ten or twelve on the alighting-board at once. This afternoon the board was covered with them—hundreds roaring to get in. 1. Are they any detriment when in such numbers. 2. Do they not consume a great deal of honey? 3. Should any means be used to lessen their numbers?—Cuthbert Bede.

Reply.—1. Yes; superfluous drones are useless food-consumers. 2. Yes. 3. Every careful bee-keeper takes care to limit the amount of drone comb in each hive.

[845.] *Working two Colonies in one Hive.*—I have a hive constructed for working two colonies on the "Wells" system, with one alighting-board and two entrances about two and a half inches separate, having a small projection two inches deep between them. 1. What I wish to know is whether it would be possible to work two colonies independently in the hive? Would the nearness of the two entrances, though painted different colours, lead to confusion and fighting? 2. Is there any

advantage, beyond economy of time and material in making, in hives to hold two colonies working independently? 3. In such hives, where are the best positions for the entrances—one in the end, and the other in the side close to the opposite end? We have had a good season here, but it has come to a close early. Drones are being killed off, and work seems at an end. 4. I would be obliged by your repeating the recipe for washing coverings, so as to remove propolis and wax.—HUGH F. KIRKER, *Co. Down, July 12th.*

REPLY.—If the porch is divided as described, there will be no more difficulty than in working two hives close together on one shelf of a bee-house. 2. There is no advantage we know of in working two colonies in one hive beyond what is claimed by Mr. Wells in allowing the progeny of both queens to work in a super common to both. Twin hives, made to hold two colonies working independently have been proved to be rather disadvantageous than otherwise compared with single colonies in separate hives and on separate stands. 3. We should prefer the entrances at opposite ends unless working on the "Wells" system. 4. We do not know the recipe referred to, but methylated spirit will dissolve propolis.

[846.] *Giving Young Queens.*—I had a swarm on May 29th, which I put in a frame hive, but they do not seem to be doing much, and the wasps tease them a good deal. I left all ten frames for bees to work on, but they have only filled five frames three parts down. There is a little brood at bottom of comb. I have taken four empty frames away, and put in a dummy close to the sixth. About three out of every six bees carry in pollen. The swarm weighed about three pounds. 1. Do you advise me to drive a straw skep to unite with them? 2. Should I kill one of the queens, or let them fight it out? I read in *B.B.J.* last year it did not matter much which. 3. What is the best plan of uniting? I have consulted *Modern Bee-keeping*, but do not see how to unite from skep to bar-frame. 4. Is Dorset considered a good county for honey? 5. Do you think sample section sent good in flavour and colour? I have taken 108 pounds of honey in the comb from five hives. I took a large bell-glass, weighing twenty-one pounds, from straw skep. I take this opportunity to thank you for the great help I have received from the *B.B.J.* I do not know what I should have done without it.—A DORSET BROTHER.

REPLY.—1. If you could drive the bees and young queen from a skep which has swarmed this year it would greatly help the prospects of the frame hive for next season. A three-pound swarm would be "lost" on ten frames, and should not have had more than half that number given when hived. 2 and 3. If the plan advised above is followed, the bees of the frame hive should be shaken from the combs and allowed to run into a skep—the queen being captured in the process. Then throw out the driven bees and queen from the skep in front of the frame hive and allow them to run in, adding the bees of the latter in the same way when about half the bees and queen of the first lot are safely in the hive. 4. We have no personal knowledge of Dorset as a bee-county, but as there is plenty of grazing-land it should be good for honey. 5. Section reached us in a state of *pulp*. The colour is good; flavour fairly so.

[847.] *Surplus Storing and Re-queening.*—have a bar-frame hive holding ten frames which I doubled on May 1st, and as the bees will not work in shallow-frame super, I took off the top half of brood nest with the intention of reducing the hive to its natural size, with the idea that the bees would then be so crowded that they would be compelled to enter super. On opening the upper half of the hive I found too many frames containing brood to do this. 1. Will you, therefore, kindly tell me if, as the season advances, the brood nest will probably reduce sufficiently for me to contract the hive as desired, and if so, about what date would you advise me to inspect the hive again? 2. I have two swarms from hives that did not swarm last year; are these queens too old to let remain through the winter, as they are probably in their third year?—F. HOWELL, *Dorset, July 12th.*

REPLY.—1. Your experience goes to prove that twenty standard frames are—unless queens are exceptionally prolific—far too many for the brood nest. Moreover, the probability is that the lower chamber will contain comparatively little brood. We should advise an inspection of the latter at once, and if all the frames containing brood can be got into it, the others might be either removed altogether, or replaced above the lower brood chamber—with excluder zinc between—for surplus storing. On the other hand, if the shallow-frame super is fitted with ready-built combs, it might be preferable to use it as the surplus chamber, and take away the standard combs. It is now too late in the season for bees to do any comb-building in supers. 2. Yes: it would be much better to remove the old queens and substitute young ones if possible.

Bee Shows to Come.

July 21st and 22nd.—Bristol and District B.K.A., at Knowle.

July 26th.—Berks B. K. Association (Windsor District), in connexion with Prince Consort's Association, in the Home Park, Windsor. For schedules apply to the Hon. Secretary, W. J. Darby, Consort Villas, Clewer.

July 25th to 28th.—Summer Show of the Scottish B.K.A. (under the auspices of the Highland and Agricultural Society (in the Dean Park, Edinburgh. £50 prizes. Schedules now ready. John Wishart, Assist. Sec., Market Place, Melrose. Entries closed July 19th.

July 26th, 27th, 28th.—Lancashire and Cheshire B.K.A., in connexion with the R.M.L.

and N.L. Agricultural Society's show at Blackpool. Entries closed.

August 1st and 2nd. — Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries closed.

August 7th.—Berks Bee-keepers' Association, Newbury District, in connexion with the Flower Show in Shaw Avenue, Newbury: 11*l.* cash prizes. Entries close August 1st. Hon. Secretary, W. Hawkes, Newtown Road, Newbury.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 12th.—Wotton-u-E. District Annual Show of Honey and Cottagers' Flower Show. £20 in prizes. Entries close Saturday, August 5th. Schedules of G. Gunston, Hon. Secretary, Bradley Green, Wotton-under-Edge.

August 15th and 16th.—South of Scotland B.K.A. at Dumfries. Wm. Wilson, Secretary, Acrehead House, Dumfries.

August 19th. — Bee and honey show at Mobberley, Cheshire (under the rules of the Lancashire and Cheshire B.K.A.), and in connexion with the Mobberley Horticultural Society. For schedules apply to T. D. Schofield, Oakfield, Alderley Edge, Cheshire, or the Secretary, Mobberley. Entries close August 1st.

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries close August 15th. For schedules apply John Latham, Secretary, North Albion Street, Fleetwood, Lancashire.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main St., Alexandria, N.B.

September 5th and 6th. — Warwickshire B.K.A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec., Knowle, Warwickshire. Entries close August 26th.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

J. W. CHALMERS (Greenock).—*Sections from Swarms.*—1. It is not possible for us to tell whether you will obtain sections from a swarm in a skep purchased a month ago. As the swarm is only of medium size, the chances are against you, but there can be no harm in giving the "super" as you have the sections ready. Were it not that you describe yourself as "a complete novice" we would suggest lifting the skep to see if it be fully combed, otherwise it will be useless to give sections this season. 2. There need be no fear about the bees swarming till next year.

W. JOHNSON (Wolverhampton).—*Joining Stocks.*—You have misread our reply to "A Cheshire Falcon." The words used are, "To join six stocks into one, or even two, would be a waste of bee-life." There is no reference to joining driven bees at all. Our reply merely deprecated the idea of joining six stocks (not of driven bees) into one in order to reduce the number of colonies, as our correspondent desired to keep one, or at most two, stocks only.

B. B. J. (Mid-Bucks).—*Completing Sections.*—Remove both racks, and sort out all the finished ones. It is, however, very questionable whether any more filling and sealing will be done now, the season in Mid-Bucks being about over, we should say. In view of this it is for you to say whether the unfinished sections should be given back to the bees to try and complete, or have the present contents removed by the extractor. We should incline to the latter course.

F. GOODRICH. — *Dealing with Skeps after Driving* — The skep should be left on the frame hive for twenty-one days to ensure the hatching out of all brood before removal. We can take no blame to ourselves for not drawing a doleful picture of what is to happen to bee-keepers next year, possessing, as we do, so much of the spirit attributed to Mark Tapley as to consider that "sufficient for the day is the evil thereof," and we trust that readers will adopt our view, as yielding what we most seek in this world, *i.e.*, "contentment" with our lot, whatever it may be.

G. S.—Comb is not affected with foul brood at all. You have been overdosing the bees by giving "camphor and as much *pure naphthaline* as will lie on a shilling." The form of naphthaline we recommend is not nearly so strong as that you have been using.

G. S. (Derby).—The Hon. Sec. of the S.B.K.A. is Rev. A. H. Alsop, Brednall Vicarage, Staffs.

J. D. McN.—Honey sent is very good in colour and consistency; flavour lacks "character" somewhat, but very nice. Aroma, hardly any perceptible. As to "points," they are to a great extent comparative when judged alongside other samples.

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THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee Meeting held at 105 Jermyn Street, on Wednesday, July 19th. Present: T. W. Cowan (in the chair), W. Lees M'Clure, W. B. Carr, Captain Campbell, Rev. R. Errington, Major Fair, J. Garratt, J. H. New, E. D. Till; F. H. Meggy and Dr. Rayner, *ex-officio*: J. Huckle, Secretary.

The minutes of the last meeting having been printed and circulated, were taken as read, and confirmed and signed. On the motion of Mr. M'Clure it was resolved to print the minutes for the present month.

The Secretary reported that he was in communication with the Rev. D. E. Williams in reference to the attendance of a lecturer at Picton Castle in Pembrokeshire on August 10th.

Letters were read (1) from Mr. A. D. Woodley offering to read a paper on the disposal of honey. Resolved, that the same be accepted, and that Mr. Woodley be thanked for his offer.

(2) From Miss Eyton, Hon. Secretary of the Shropshire Association, inquiring as to whether a meeting of the Northern Associations Committee would be held at the Shrewsbury Exhibition on August 23rd. In the event of the meeting being arranged, the Shropshire Association were desirous of entertaining those present to luncheon. Resolved, that the Secretary do send a letter of thanks to the Shropshire Association, and make arrangements for the meeting to be held.

(3) From the Wotton-under-Edge Association, requesting the B.B.K.A. to consider the advisability of preparing a code of points for judging honey for the guidance of exhibitors and judges at country shows. Resolved, that the matter be referred to the exhibition subcommittee to report.

Certificates were signed in favour of the following candidates:—

First class: T. W. Jones, Etwall, Derby; F. J. Cribb, Morton, Gainsboro'; W. J. Anstey, Oxford.

Third class: F. H. Brenes, Brentwood, Essex; H. O. Huntly, Worcester; Owen Roberts, Rowton Grange, Chester.

The Finance Committee recommended that the accounts relating to the Chester Exhibition, and the prizes awarded to the Chicago exhibits, be paid. Resolved, that the Finance Committee's recommendation be adopted.

The Exhibition Sub-Committee reported that an application from the British Dairy Farmers' Association for a grant towards the prizes to be offered for honey at the annual Dairy Show had been considered. The Sub-Committee recommended that a donation be made, not exceeding the amount granted last year, on the understanding that the honey is staged in a favourable position.

The Chicago Exhibit Sub-Committee presented their report with statement of accounts showing an expenditure of 33*l.* 17*s.* Attention was called to the fact that the Sub-Committee's outlay had exceeded the amount voted on this account by 8*l.* 17*s.* Resolved, that this sum be allowed.

In accordance with previous notice, Mr. Garratt called attention to the privileges of affiliation in respect to the appointment of judges and examiners at country exhibitions. He urged that the Central Society ought not to be asked to provide these free of charge. The present system imposed a tax both upon the person selected and upon the Society itself, which should be borne by those receiving the benefits. After some discussion of the subject, it was resolved that the matter be brought before the next annual general meeting for consideration.

Mr. M'Clure and the Secretary were deputed to draw up a circular letter to be sent to the various agricultural colleges and other bodies, urging them to establish classes in bee-keeping at their respective institutions, and submit the same to the next meeting.

It was resolved that the binding of the reports of the several Associations should proceed after Monday, July 31st.

LINCOLNSHIRE B.K.A. ANNUAL SHOW.

The annual show of the Lincolnshire Bee-keepers' Association was held in connexion with the Lincolnshire Agricultural Society, at Stamford, on July 20th and 21st. The weather was not at all propitious on the morning of the 20th, but cleared up as the day proceeded. In the honey, bee, and appliance departments there were forty-six entries, and the schedule

contained four classes for honey, one for observatory hives, and six for appliances. These classes were well contested, there being four entries for the best exhibit of comb and extracted honey staged on four feet by four feet, height not to exceed five feet. Three prizes are given in this class, the first and second prizes carrying with them the silver and bronze medal respectively of the British Bee-keepers' Association. The first prize and silver medal were won by an exhibit arranged and decorated with flowers in the most tasteful manner, both Judge and Steward declaring it was the prettiest display ever seen by them. The honey and flowers were the exhibit of Mr. Fancourt, of Stamford, and staged by Miss Fancourt, whose taste was most highly commended. The second prize and bronze medal fell to Mr. William Sells, the son of a veteran bee-keeper, and the third to Mr. T. Sells.

In the class for the best twelve sections there were eight entries. The first prize fell to Mr. John Walton, of Leamington, who made a splendid exhibit of twelve sections of marvellous cleanliness, glazed and bound with white lace paper; even his competitors said they "weren't in it" with him, and the ordinary enamelled glazed ends looked "dowdy" against the clean white wood. The second prize fell to Mr. Fancourt; the third to Mr. R. Godson, Tothill; and the fourth to Miss Cooper, Leicester; but from the colour and appearance of all the local sections, it is quite evident the district has not been favoured with a good honey-flow. For the best exhibit of run honey in twelve one-pound bottles, there were twelve entries, and in this class also it was clear the season was not up to the average, as the exhibits from districts close together differed very widely, and the usual pale clover honey to be found at "the Lincolnshire" was conspicuous by its absence, the honey varying from pale amber to dark brown in colour, whilst the flavours were almost as numerous, and gave the Judge considerable difficulty in making his selection. Mr. R. Godson, of Tothill, took the first prize for a very thick, pale amber honey of exquisite flavour. Mr. Arbuckle, of Thorne, near Doncaster, came second: Miss Ethel Chester, Melton Mowbray, third; and Miss Cooper, of Leicester, fourth.

In the cottagers' class there were but three entries. First, Mr. Abraham; second, Mr. William Sells.

There were three observatory hives shown, and Mr. R. Godson won the first prize with an excellent exhibit of a three-frame hive, with combs showing practically oval brood nests, with white-capped stores above. Mr. William Sells came second with a single-frame observatory.

In the appliance classes, Mr. W. P. Meadows, of Syston, and Mr. C. Redshaw, of South Wigston, both made an excellent display, Mr. Meadows obtaining the first prize and Mr. Redshaw second for the best complete collection of hives and bee-furniture.

For the best rapid feeder.—First, W. P. Meadows; second, C. Redshaw.

Best and most complete frame hive (price not to exceed 1*l.* 5*s.*).—First, C. Redshaw; second, W. P. Meadows.

Best and most complete hive (price not to exceed 12*s.* 6*d.*).—First, C. Redshaw; second, W. P. Meadows.

Best honey extractor.—First and second, W. P. Meadows.

Best pair of section racks.—First, W. P. Meadows; second, C. Redshaw; third, W. P. Meadows.

The exhibits were judged by Mr. F. J. Cribb, of Gainsborough, and the bee department was in charge of Mr. R. Green, the B.B.K.A. expert. Both these gentlemen gave several lectures in the bee-tent of the Association during the two days of the show, explaining the principles of bee-keeping and the advantages of the modern system, which were attentively listened to by the audiences.—*Communicated.*

SPECIAL PRIZES AT THE NORTHANTS SHOW.

The Hon. Sec. of the Northants B.K.A. having extended the date for entries in the special class for single sections of honey offered at the coming show at Delapre Park, we are glad to give some prominence to the announcement, and at the same time to say how much we hope that the entry may be a large one. The prizes are of themselves so liberal as to be well worth competing for, and as there is no entry fee, the total cost to exhibitors need not exceed sixpence for postage and the value of section itself, while there is a chance of winning one of five money prizes, as follows:—1st, 20*s.*; 2nd, 15*s.*; 3rd, 10*s.*; 4th, 5*s.*; and 5th, 2*s.* 6*d.*

But, beyond this, there is the fact that the sum realised from the sale of the exhibits will be devoted to so deserving an object as that of helping the widow and children of a very worthy bee-keeper of Northants. On this account alone it commends itself to us.

Mr. R. Hefford, Hon. Sec., Boughton, near Northants, will be very pleased to give any information or to receive entries, and will at once forward a number for exhibitors to mark on their sections before posting to him.

KENT BEE-KEEPERS' ASSOCIATION.

The Council of this Association met at Sevenoaks on the 8th inst., the Rev. T. S. Curteis presiding.

The Hon. Secretary announced the increase of members since the commencement of the year to be fifty-five. The spring tour had been duly carried out. Technical instruction in bee-management under County Council auspices had been given at Shorncliffe, Sandwich, Malling, Ightham, Seal, and Swanley, the

attendance at which had been numerous, and the interest very marked. Many new bee-keepers had entered upon the pursuit, and the flagging interest of others had been revived. A course of instruction was arranged to be given at Sturry, and the sanction of the County Council had been given for the holding of demonstrations of bee-management at the Chislet Cottage Gardeners' Show and the Sellindge Show on the 28th of July and 9th of August respectively. The sum granted by the County Council for this branch of instruction for the current year was 150*l*.

The consideration of the arrangements for the annual show of the Association, to be held in Knowle Park, Sevenoaks, on the 16th of August, was entered into at length. A liberal schedule has been prepared, embracing the usual exhibits of comb and run honey, but, besides these, new classes for honey in applied forms have been introduced with the object of widening the interest of bee-keepers and rendering the show more attractive to the public. Liberal prizes for hives and appliances for open competition are also included.

The financial position was carefully considered, and it was decided to issue a stirring appeal for more public support.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The Edinburgh Show.

The summer exhibition of this Association promises to be a successful gathering. In some of the classes for appliances, the entries have not come up to what has been anticipated with the inducements held out. There are in all 196 entries, compared with seventy-three at Inverness last year. Some of the honey classes are very large, and the competition will doubtless be keen. The show is held in connexion with the Highland and Agricultural Society in the Dean Park, Edinburgh, easy of access by cable tram-cars. The bee-shed has been tastefully decorated with bee-flowers and banners. The walls are covered with pressed bee-plants in frames. Adjoining the bee-shed Sir Thomas D. Gibson-Carmichael's bee-tent has been erected, where Mr. S. J. Baldwin will give frequent lectures and demonstrations.

WHY FARMERS AND HORTICULTURISTS SHOULD BE BEE-KEEPERS.

In order to succeed in apiculture, it is not altogether necessary to be a specialist, and a farmer can keep a few hives of bees as well as he can successfully grow a small orchard or cultivate a truck garden. The fact is, we usually find that the most successful farmers do not neglect any of the smaller branches of their industry, though some are more proficient in one line than in another.

The greatest drawback to the keeping of bees by farmers, horticulturists, and country people in general, is the fear of stings. The majority of them imagine that the handling of bees is a difficult feat, and can only be performed by those who have a special gift in that direction. The recent progress in the management and handling of bees is unknown to the masses. Yet it is a fact that, with all the latest improvements at our command—improved bee-smoker, bee-veils, movable frames, and the latest implement, the bee-escape—there is so little danger of being stung that it takes only a little determination to successfully handle a limited number of colonies.

Instead of saying, Why should farmers keep bees? we ought to say, Why should they not keep bees? There is probably not one farmer's family in fifty that get all the honey they can consume, and on every farm there are thousands of pounds of honey going to waste annually for want of bees to harvest it. Ten colonies of bees, and an outlay of implements not exceeding $25, with ordinary management, will be sufficient to gather all the honey a family can consume. According to our own experience, the product of ten colonies of bees in this State [Illinois] is, on an average, fifty pounds each annually.

Very little time is required for the manipulations of this number of hives. With large hives and the extracting method the actual labour is reduced to a few hours. When the bees have been properly put into winter quarters, they need no attention till the first days of March. Then, one short visit each month during the spring to ascertain whether they have queens, and whether the stores are sufficient to permit them to rear brood plentifully, and they will be safely carried to the time of harvest.

With extracting supers the job of putting on the honey boxes is a matter of less than an hour. Then the extraction of the crop will require perhaps half a day. The rest of the manipulation, including putting the hives in proper shape for winter, need not require more than a couple of hours at every visit.

The labour is indeed very light. To know what is wanted, and to do it in time, is the secret of success. To this we might add that the bee-business is a business of details, and that he who succeeds best is he who studies it most, and does not rely more on his own ideas than on the advice of experienced writers. More blunders have been made by ignorance, or by too much self-reliance, in this business than in any branch of farming that I know, of.

It is perhaps well to add that the bees are a useful factor in the fertilisation of many blossoms. Their help is invaluable to the horticulturist, and it is a known fact to all observers that the seasons in which the fruit-trees bear the most plentiful harvest are those in which the bees have worked on them with the most diligence. The fact is easily explained, and is in accordance with what the naturalists tell us

of the structure of the blossoms, and of the fertilisation of the pistils. To fertilise the flowers and make them bear fruit it is necessary that a little of the pollen be scattered on the pistil, and it is proven that this pollen is more efficient when not furnished by the same blossom or even by the same tree. So the bee is a natural agent in the reproduction of many trees and plants, and prevents in-and-in breeding from being carried to excess in all the blossoms on which it works.

The assertion of many people that the bees are injurious to sound fruit is a gross error, and if more people kept bees they would soon ascertain that the bees feed on fruit only when it is already damaged, and when no other and better sweet is to be found. They aim to save that which goes to waste, but always save the best first.

The location of an apiary on a farm is an easily solved problem. There is always some corner in which stock does not go, sheltered by trees, or orchard, or along some hedge, and on every farm this corner might as well be occupied by bees as by weeds, and if a season comes when the cornfield or the stubble are overrun by weeds, owing to too much rain or other unfavourable circumstances, the farmer may rejoice in the fact that these same weeds will increase his honey crop.—C. P. DADANT, *in* "*American Bee Journal.*"

BEES AND HORTICULTURE.

In the course of a well-written article on the "Interdependence of Apiculture and Horticulture," the *Canadian Bee Journal* offers the following pertinent remarks:—

"Research and observation, however, have shown that in all cases, whatever the sexual characteristics of the plant may be, the conjunction depends, for the most part, on the activity of insect life, and that nature has made wise provision for accomplishing the work just at the proper time. A practical writer in the *Fruit Growers' Review* says:—'For years it was an unsolved problem as to how the horticulturist could secure the perfect fertilisation of his choicest fruits. He tried the fine pencil brush in distributing and mixing the pollen. This he found expensive and unsatisfactory, as he could not always do the work at just the proper time. On the other hand, when the pollen is ripe, ready for proper fertilisation, nature places a tiny drop of nectar just at the base of the petals, on which the pollen, or father dust, is grown. To reach this the honey-bee, in its eagerness, brushes against the petals, and knocks off this pollen dust, which is scattered all over the bee; then to the next flower it goes, and the process is repeated, and in doing so, leaves some of its own dusty coat. The back and body of the bee is peculiarly coated with short hair, which holds the pollen as it goes from one flower to another. Still another peculiarity of the honey-bee is that, it is said, it never visits flowers of a different species on the same trip from the hive.'

"It is thus easy to conceive that there is no other creature of the insect world so perfectly adapted to do the work of horticultural fructification as the honey-bee. The bee is dormant during a period of the year when vegetation is also torpid. She recommences active work the moment vegetation is awakened in the spring. She is not only endowed by nature with the instinct necessary to aid her in the fructification of flower and fruit-bloom, but without the accomplishment of it she cannot exist. Under these circumstances it is safe to say that, without her aid, the occupation of the horticulturist would be as completely gone as that of Othello. The bee may possibly exist without the aid of the horticulturist by confining herself to such food as may be secreted by the grasses, clovers, flowers, and other species of vegetation. But without the bee, it is safe to surmise that the area of our fruit-production would be very much shortened up, if not, eventually, altogether destroyed.

"The alliance between apiculture and horticulture is thus so clearly defined, that it seems to as that, in order to be successful in fruit-raising, it is first necessary to be a good bee-keeper; and to be a good bee-keeper means to have a good level head, and to be a pretty handy all-round sort of man. We trust that this little lecture will not be without its effect on such of our readers as may be engaged in the delightful and profitable occupation of horticulture—fructiculture would be the more correct term to employ—and that, instead of spraying their trees during bloom, whilst the bees are busy at work in aiding the process of fertilisation, they will put the spray pumps, the Paris green, and other like poisonous devices to one side, until the bees have finished their perfect work, and until the *curculio* and other destructive creatures have commenced theirs."

TECHNICAL INSTRUCTION IN BEE-KEEPING.

The Organizing Secretary to the Technical Instruction Committee of the Hereford County Council, in the fifth report to his Committee, thus refers to the work of the bee-van in the county:—

"*The Bee Van.*—Thinking perhaps you might wish to have independent testimony respecting the work of the bee-van, I attended, without notice, an afternoon demonstration at Whitfield and an evening one at Kingstone. There was a very good attendance at both places, especially at Kingstone, notwithstanding that the weather was unfavourable. In the afternoon Mr. Meadham, who travels with the van, gave a practical demonstration, Mrs. Greathead kindly allowing the use of her bees and hives. This was most interesting, and could not fail to be of great assistance to all but the most expert bee-keepers. In the evening the instruction was necessarily more theoretical in character, but not less interesting. Mr. Meadham gave a short but useful lecture, explaining the advantages of the

modern system of bee-keeping as compared with the old, and this was followed by a lecture from Mr. Alfred Watkins on the life-history of bees. This latter was admirably illustrated by a series of lantern slides prepared from photographs, which were exhibited by means of the limelight on a screen stretched across the end of the van. The keenest interest was manifested by all present."

A WEIGHTY SWARM (?).

A Scotch correspondent has favoured us with a cutting from a local paper, which reads as follows:—"Mr. Jas. Hyslop, Greenlaw, has obtained from one hive a top swarm weighing twenty-two pounds!" Classing the above as a "top" swarm was certainly superfluous. It might well have been called a "tip-topper."—EDS.

JOHN HUCKLE TESTIMONIAL FUND.

The following sums have been received or promised:—

	£	s.	d.
Amount already acknowledged ...	34	8	0
Hon. & Rev. H. Bligh	2	2	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

A CURIOUS RETREAT FOR BEES—A GOOD "FIND" OF HONEY.

[1501.] Last week, accompanied by my assistant, I went, by appointment, to Cefncoed Farm, an old homestead where bees and the family of the Rowlands have dwelt for centuries. For the past fifty years the former had taken possession of the best bedroom in the house, and had become the terror of visitors who casually occupied this room, and the respected landlady and her family.

Many years ago the bees were known to occupy the fine end wall; this requiring some repairs, a mason was sought, who well and securely plastered up every crevice he could find, so that the bees that formerly had entered through this wall were made prisoners, and were debarred from roaming the nectared meadow and the heathery hill adjoining. Though apparently doomed to extinction, the bees managed to find an entrance by the wall of the bedroom, and again had admission to the house. They soon entered the bedroom in thousands, to the great alarm of the hostess.

In driving past the previous week, the writer had a hive with him, which drew the attention of Mrs. Rowlands, who asked if he could take away some bees that were troubling her in the house; for she was in continual dread, when any one occupied this bedroom, of the bees attacking her friends when asleep at night. Filled with pleasure at the prospect in store of having a big bee-day, he went to view the seat of war, and at once undertook the task of capturing the enemy. Before the week was out he was on the spot, duly attired for the fray; protected with veil, provided with carbolised sheet, smoker in full blasting trim, crowbar, chisel, hammer, and saw ready at hand. They set to work first by removing a cupboard, and then raising a floor-board, when they found that the besieged were prepared to resent intrusion upon their castle; a volley of smoke, however, soon caused their retreat, and the operators had a fair view of the treasure, which revealed the fact that, between the joists of the lower room and the flooring of the bedroom above, there was a solid block of virgin honey. They then put the saw to further use, which revealed more, and it was still more until they had cut up twelve widths of flooring. At the farthest end the condition of the comb was very dark, but they were all pleased when the result turned out to be four large milk-pails of honey.

They then paid their attention to the bees, and safely housed them in a clean straw skep; left them in bedroom overnight, and safely removed them to the garden the next morning, where they continue to work splendidly. The whole time occupied was three hours, which was time pleasantly spent, and an event not soon to be forgotten.—T. W. POWELL, *July 19th.*

SUCCESSFUL RAID ON BEES IN A CHURCH.

[1502.] A most successful drive of bees took place in the Becconsall Church at Hesketh Bank on July 17th. The bees have been in possession for seven or eight years. The roof is of flags, ceiled inside with pitch-pine, the space between being about eighteen inches, the bees having their entrances at the end. Mr. T. Dandy having ascertained the position of the comb, he, along with R. Rymer, R. Buck, and R. Ward, proceeded to take down the ceiling boards, when they discovered a solid mass of honey-comb a yard square. The yield of honey and wax is about two hundredweight. He also obtained a good stock of bees.—SUBSCRIBER, *July 27th.*

MOVING BEES AND QUEEN-EXCLUDER ZINC.

[1503.] I observe "Enthusiast's" difficulty (822, p. 267), in removing bees. I also notice that he inverted the skep. Why that should be necessary I don't know, but I think it a mistake. One reason, it inverts the cells too, causing the honey when the skep is shaken to drop out, as cells in their natural position incline upwards. Another reason: often we find a quantity of brood on the lower part of the comb which makes it rather heavy, and when the hive is inverted or knocked about causes it to break and fall out, and sometimes a queer mess is the result.

About the middle of last May I had to remove a stock of bees in straw skep which had cast first swarm about a week previously. After placing a piece of hoarding underneath and tying it round the bottom, it was carried into a spring-cart the normal way up, placed upon two bits of wood to raise it from the cart bottom to allow air for the bees, with a piece of sacking packed between the cart side and hive. It travelled without any further trouble over country roads a distance of five miles, some parts very rough, with no breaking of comb whatever. At night I could hear the queens piping. The few days following being rather dull, and having a "Wells" hive near, I determined to drive them, which I did successfully, securing both queens, and placing about half of the bees on each side of the division-board, each with a queen, both sides doing fairly well, one side working in the super.

Just a word respecting queen-excluder zinc. Bee-keepers here don't use it and I am informed that the queen with it never deposits eggs in the super. My bees take to the super in as many days *without* zinc excluder as they do in weeks with it. I have not yet extracted the supers, so cannot say from own experience whether they will contain eggs or brood.

Bees about here have done exceptionally well and from what I hear with about the usual number of swarms, one farmer with three or four box hives three weeks ago having taken about seventy pounds of honey and probably more; and another from two hives about forty pounds—which is considered very fair about here, I but have no doubt that with care and attention this could have been doubled.

I note query (1488, p. 272), respecting the sale of honey, and should advise that it be not rushed into the market. With a bit of patience your correspondent may be able to sell all he has—perhaps he may dispose of it to a chemist at a good price, as is sometimes done about here. In our village we have no difficulty in selling all we produce, and often if not always, run short at 1*s.* 4*d.* per pound. In winter it is wanted in half-pound, one-pound, and two-pound quantities, so long as it is known to be our own produce and pure. Certainly we don't gather it in tons. Ah! how convenient it is to have a cold when honey cannot be had without!—WEST YORKSHIRE.

FOUL BROOD CURED.

[1504.] It will doubtless interest you to know that, whilst at Stamford, I made inquiries as to how some fifteen hives were going on in which I found foul brood last year. I advised Mr. Sells at the time to write to our Secretary for some naphthaline, and to give it to the owners for insertion in their hives. This was done, and Mr. Sells reports that, at a recent examination of these hives, he could not detect a single diseased cell. I advised him to continue its use throughout this season at all events, if he could not persuade the three owners to permanently use it. My own apiary has remained clear, although I found one hive this spring, in a row of three next door, that was badly effected; but, as I had kept naphthaline in all my hives, and there was some at the time in the affected one, I have not suffered any evil effects from it. The affected hive is no more, the others are strong and healthy, and my faith in naphthaline as a preventive is so great that I shall never be without it in future. —F. J. CRIBB, *Gainsborough, July 21st*, 1893.

DOMESTICATING HUMBLE-BEES.

[1505.] In your issue of June 8th (1458, p. 225) I wrote asking information respecting the domesticating of the common wild black or "bombus" bee. I had not long to wait before a welcome opportunity presented itself of trying the experiment. Whilst out in the fields three of us had to take shelter under the hedge from the rain. In our haste one of us plumped right over a nest, which I immediately began to dig for, and found about a foot down from the surface. When the hole was large enough, and the nest containing brood taken out, an inverted skep with the nest took its place, which was filled up with turf, grass, and soil, with a hole at the top for the bees to pass in and out. That was about a fortnight ago, and they still occupy the same place. Any information or suggestion for proceeding further with them towards bringing them under more direct observation, and, if possible, domestication, I shall be grateful for and give due attention to, either from you or any of your readers.—WEST YORKSHIRE.

Queries and Replies.

[848.] *Bees about Dwelling-houses.*—For the last two or three days my bees have entered an outbuilding both by the door and window, and to-day they have done the same with the shop, and many scores have died at the windows. They are also flying round the doors of my house, and seem greatly excited. Kindly tell me the apparent cause and possible remedy. I have closed the hive entrances to about an inch, thinking there was fighting going on, as those at the windows appear to fight each other. Up to the present my bees have done well; they are

all strong, and I have taken a quantity of honey. —Norfolk, *July 18th.*

Reply.—The prowling about the house simply means that little or no honey is now to be had in the fields, and that the bees feel the loss of the stores taken from them. It might be well to see if feeding might not be advantageous both for quieting the bees and keeping up breeding, as well as to make sure that there is plenty of food in the hives.

[849.] *Preparing Shallow Frames.*—I am wishing to work on the "shallow-frame" system next season. 1. Is there anything to be done now in the way of preparation? 2. If I put foundation comb in shallow frames now (wired), could the bees be induced to draw out cells, and how? Or (3) would you suggest to cut comb from standard frames (extracted) to size of shallow frames, and, if so, could bees be induced to fasten them?—C. G.

Reply.—1. No. Bees work better on fresh foundation than on "stale," so defer preparing frames till next year. 2. No need to "wire" shallow frames. If fed liberally you might get some combs drawn out in strong stocks, but it is not certain so late as this. 3. If combs are clean and fresh, they may be utilised with advantage for shallow frames by cutting the combs so that they will require pressure to force them into the frame. The bees will soon make them secure.

[850.] *Bees leaving Straw Skeps.*—I had in the spring one box and one straw skep from which I had a swarm the first week in June. Nine days later I was expecting the cast, but I fear we did not watch it at the right time, for we have lost it. A neighbour has also had two swarms from straw skeps, but has lost both casts, if they have come out. My swarm was put into a box. I therefore have two boxes and one straw skep. On Sunday, July 16th, I put the skep on to a bar-frame hive, not with the intention that they should work down, but for them to get used to the box entrance. On Friday, July 21st, I intended to drive the bees into the box; but, to my surprise, when I lifted off the skep, there were no bees in it except a few robbers and, I think, three wasps. There was no brood nor honey. I have gone up the garden about 5.30 of a morning, and have seen bees going in, but not imagining they were robbing, I took no notice, and, it being late when I returned from work, I did not trouble about them. Do you think they joined the swarm that came from the straw skep, as they were side by side? I think they must have done so, as, when I lifted the quilt off swarm, I had to give them more room, and there were about thirty or forty dead bees in front of the swarm's hive. Do you think they will come out again, or stick to that hive? I can hear of the bees doing well, but swarms have been very scarce. One bee-keeper has lost, I think, three swarms this season, as they seemed to take to flight as they come out.—T. V. R.

Reply.—It is not at all impossible that the casts have joined the swarm, and from your finding the swarm so very strong, it is very probable. The old colony was left without a young queen and few bees, which have either dwindled away or joined a stronger hive. The bees will not leave the swarm now, but remain in the hive they have joined.

[851.] *State of Hive.*—One of my bar hives is very weak, and bees do not cover more than two or three frames. They have been weak since spring, and don't appear to be getting any stronger. On examining hive about six weeks ago I found queen, but could not find her since. Let me know what I may do with this stock. There is a little patch of brood on frames. Do you think there is a queen in hive now, and how could I best manage to find her?—J. A. Aiken, *Kesh.*

Reply.—If your hive has been weak since spring it is probably owing to its having a poor queen, as with the fine weather prevailing this year the hive ought to have built up in the usual way. As there is a little patch of brood on frames it shows that there is either a queen now or that one has been in the hive recently. If you examine the comb carefully and find eggs and larvæ in every stage, and in a normal condition, the queen is there. You can find the queen by taking out and examining combs on both sides, and every crevice she may be likely to hide in.

[852.] *Transferring from Skep.*—Will you kindly advise me about my bees? I have a straw skep, from which I had a fine swarm in June, which is doing well in a bar-frame hive. I have not been able to super my skep, and do not know if it would be best to leave it alone till next year and super it early (it is full of honey), or drive the bees into a frame hive which I have ready and feed them during the winter. If you advise driving them will you tell me, first, the best time to do it, and how to manage to keep them alive and well? My bar-frame hive is a standard size, with nine frames and two dummies, and is fitted with strips of wax. Second, could I cut some comb out of the skep and fix it in the bar hive? Third, about what time is the best to close in the bars for the winter in my other hive? An answer in your *Journal* would greatly oblige.—J. M., *Bournemouth.*

Reply.—Unless you particularly wish to keep your skep we should advise you to transfer the bees to a frame hive. 1. This can be done now by driving the bees, and then cutting out what combs contain brood and placing them in frames. The bees will have to be fed to induce them to build combs in the other frames containing wax strips. Reduce the space occupied by the bees by means of the division-board to as many frames as they can cover. 2. You can cut out and transfer all the combs from the skep if you desire, but we prefer filling frames with comb foundation, as this is now so cheap, and combs

made with it are much more regular. We should certainly substitute full sheets of foundation for the wax strips, as much time would be gained thereby. 3. All arrangements for wintering should be completed by end of September, or beginning of October at the latest.

[853.] Will you kindly answer the following question in your coming issue of the *British Bee Journal*: Is it usual and necessary for judges to cut and so disfigure sections sent for competition?—A. W. R. S., *Merrow.*

REPLY.—It is usual and quite necessary in most cases for judges to taste honey contained in the sections, and for this purpose generally one section is selected by them. It is for this reason that it is usually a condition in the schedules that comb honey must be glazed on both sides. The gloss is to be secured by metal clips and white paper, or in any other neat way capable of being removed by the judges. No competent judge would award a prize without tasting.

[854.] I have a hive which I am obliged to remove about two miles by road and thirty by rail. What I propose doing is to remove the crate and put on a piece of perforated zinc over the frames, and then put on the hive cover without quilts, and piece of zinc across the entrance. Will this be the right thing to do? Now, what I am doubtful about is the frames, which are nine in number, and are full of honey and brood. Must they be left as they are, or should they be extracted and the bees travel on the empty combs and a portion of the honey mixed with syrup fed back again? I am going to drive some bees from a skep, and put them in a box on frames of foundation, as I have no spare combs. Would it be any use my putting on a queen-excluder over frames and put the skep on same for any brood to be hatched out, or should they be covered up warm and fed with syrup? Your kind advice will greatly oblige—A NORTH DEVON BEE-KEEPER.

REPLY.—Your proceeding is quite right, but you must be sure that the frames are properly secured, so that they do not move. We should prefer to extract the honey if the frames are very full and heavy, unless the combs are built in wired frames which would prevent their breaking down. You can feed back the diluted honey as you propose. If you drive the bees to put into frame hives we should cut out what brood there might be in the skep and transfer it to frames to hatch out, feeding the driven bees with syrup.

Echoes from the Hives.

Beemount, Stoke Prior, July 22nd.—The honey season here, alas! is at its close, and the bees are rapidly removing the honey stored in the sections. Sections which were nearly ready to be removed a fortnight ago are now almost empty. I intended taking my sections *en bloc* on August 1st, for I think removing them as they are filled, either by the aid of the carbolised feather or smoker, hinders the working of the bees, but I am clearly a victim of circumstances, and must alter my plans. Hope to remove all my surplus honey next week, when I will let you know the result; but I fear my crop will not be very great. Notwithstanding the prospects, from a bee-keeper's point of view, are now looking very *blue* in this neighbourhood, still I rejoice that those of the farmers and gardeners are far *greener* than they were a short time ago. Although I own only six stocks, I have enough enthusiasm for sixty.—PERCY LEIGH.

Bee Shows to Come.

July 26th, 27th, 28th.—Lancashire and Cheshire B.K.A., in connexion with the R.M.L. and N.L. Agricultural Society's show at Blackpool. Entries closed.

August 1st and 2nd.—Staffordshire B.K.A. at Lichfield, in connexion with the Staffordshire Agricultural Society. Hon. Sec., Rev. A. H. Alsop, Brednall Vicarage, Stafford.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries closed.

August 7th.—Berks Bee-keepers' Association, Newbury District, in connexion with the Flower Show in Shaw Avenue, Newbury: 11*l.* cash prizes. Entries close August 1st. Hon. Sec., W. Hawkes, Newtown Road, Newbury.

August 7th.—Bee and honey show at Vale Royal, under rules of the Lancashire and Cheshire B.K.A. Entries close July 29th. Schedules from John P. Ricketts, Hon. Sec., Davenham, Cheshire.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton. Five special prizes, viz., 20*s.*, 15*s.*, 10*s.*, 5*s.*, and 2*s.* 6*d.*, for single 1-lb. sections, entry free. For particulars apply to Robert Hefford, Hon. Sec., Northants B.K.A., Boughton, near Northants.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries close July 31st. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 12th.—Wotton-u-E. District Annual Show of Honey and Cottagers' Flower Show. £20 in prizes. Entries close Saturday, August 5th. Schedules of G. Gunston, Hon. Secretary, Bradley Green, Wotton-under-Edge.

August 15th and 16th.—South of Scotland B.K.A. at Dumfries. Wm. Wilson, Secretary, Acrehead House, Dumfries.

August 16th.—Kent B. K. A., in connexion with the Sevenoaks Horticultural Society's Show, in Knole Park, Sevenoaks. Entries close August 12th. Hon. Secretary, Jesse Garratt, Meopham, Kent.

August 19th.—Bee and honey show at Mobberley, Cheshire (under the rules of the Lancashire and Cheshire B.K.A.), and in connexion with the Mobberley Horticultural Society.

For schedules apply to T. D. Schofield, Oakfield, Alderley Edge, Cheshire, or the Secretary, Mobberley. Entries close August 1st.

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries close August 15th. For schedules apply John Latham, Secretary, North Albion Street, Fleetwood, Lancashire.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main St., Alexandria, N.B.

September 5th and 6th. — Warwickshire B.K.A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec., Knowle, Warwickshire. Entries close August 26th.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** We are requested by the Hon. Sec. of the Chicago Exhibition Committee to express regret that the name of Mr. J. Brown, Bristol, was inadvertently omitted from the printed list of donors.

We are asked to say that if "J. E. G. (Burton)" whose communication is referred to on p. 262 of *B. J.* for July 6th, will write to Mr. C. H. Dyche, Hon. Local Sec. D. B. K. A., Ebenezer Cottage, Wyggeston Street, Burton-on-Trent, he will receive any help the Association can afford either in curing his diseased stocks or otherwise.

F. D. (two years bee-keeper).—*Races of Bees.*—No. 1 are the common British bees. No. 2 are robber bees, and are glossy owing to a loss of hairs, they are cross-bred, having Italian blood. From your description we do not think a swarm could have joined your bees, but that it is an ordinary case of robbing.

Percy Leigh.—*Driving Bees from Straw Skeps.*—Unless you expect to send your two stocks in straw skeps to the moors, we should advise you to drive the bees now and take what honey there is. You could then unite the two lots together and start in movable comb hive. Any combs containing brood could be transferred to frames.

T. McMunn (Derbyshire). — The comb sent contains nothing but honey and pollen. There is no brood, therefore we cannot state if bees were suffering from foul brood.

E. Wood.—The bees sent are crossed Carniolans and common. They are hairless bees, and are driven from the hives which they endeavour to enter. It is possible they may be from some of your own hives.

E. Griffiths.—Both the samples of honey sent are good. No. 1 is bright, of good consistency, but slightly darker than No. 2, which is, on the other hand, a little less dense than No. 1. We prefer the flavour of No. 1. The aroma of both is good.

C. Adams.—Sample of honey sent is of good consistency and colour, but strong in flavour. 56*s.* a cwt. is a very fair price for it. It would be much improved by mixing with a light-coloured honey devoid of much flavour, such as that got from mustard.

C. J. Lilie (Grimsby).—1. The swarm is not a large one, but can be built up by feeding. 2. You cannot drive them this year, as combs so recently made would break away, so you had better keep them in the box till next year. 3. If they have a queen, you do not require a new queen, and if the bees are bringing in pollen vigorously, it would be a usual sign that the hive has brood and a fertile queen. 4. Do the feeding now, and finish before September. 5. Combs in a box ten inches long do not require support. 6. Yes, most drones are driven out by this time except in queenless hives. 7. *British Bee-keepers' Guide-book*, by T. W. Cowan, treats upon bee-keeping in frame hives. 8. Yes, most certainly we recommend frame hives.

Castel Cane (Dulwich).—*Getting Honey out of Skep.*—The best way would be to drive the bees from the skep and transfer the brood to frames, filling the other frames with comb foundation. The honey in the other combs can be extracted. This is a good time to transfer.

E. A. Crisp.—The sample of honey is a mixture of fruit and flower honey, darkened by a little honey-dew. There is very little of this, and the honey would do for feeding, as you can dissolve it by putting jar in hot water. The honey should be diluted with water. But why not make vinegar with it? This would pay better, and you could feed bees on sugar syrup. Brood should not be put through extractor, as it is liable to be injured.

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MARSHALL STEPHENSON,
YORK, *July 22nd*, 1893. *Secretary.* 154

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THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 580. Vol. XXI. N.S. 188.] AUGUST 3, 1893 [*Published Weekly.*

Editorial, Notices, &c.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The third annual summer show of the Scottish Bee-keepers' Association was held, in connexion with that of the Highland and Agricultural Society, in the Dean Park, Edinburgh, on July 24th to 28th, and we are very pleased to record a complete and conspicuous success for the Exhibition in every sense. Notwithstanding an unpropitious beginning, so far as frequent showers during the morning of the opening or "five-shilling day," the attendance was good, and the weather during the whole of the remaining time the show continued was beautifully fine, and the attendance enormous. Only once before in the history of the Highland and Agricultural Society has the gate-money of 1893 been exceeded, and that was in the "centenary" year. The fortunate circumstance of it being the annual "trades' holiday" in Edinburgh no doubt added greatly to the number of visitors; any way, it was a matter for all-round congratulation that so many circumstances combined to render the meeting so successful.

It was our first appearance at a Scotch show, and very gratifying, indeed, it was to find that bee-keepers came from such far-away counties to be present and show their interest in the craft. It would occupy too much space to give full particulars of the many we had the pleasure of meeting in the flesh for the first time, though almost as familiar with them in spirit as they were with ourselves, and we trust it will be long ere we forget the hearty "hand-grip" of many a Scotch bee-man met at the Edinburgh show. Very gratifying, also, it was to hear how good the season had been with almost every one, so that general satisfaction seemed to prevail on all hands.

The shedding appropriated to the bee department, spacious though it was, proved none too large; indeed, a somewhat increased space would have been advantageous, so varied and numerous were the many interesting things staged. A centre table occupying the full length of the shedding was taken up with sections and the two extensive collections of honey which took first and second in the class for the "best display of honey in any form," to which we shall refer later. Then one side of the wall space of the shedding was covered with specimens of dried honey and pollen plants, framed and glazed, and on the bench below were staged, among other things, quite a museum of interesting bee-things belonging to Sir Thomas Gibson-Carmichael. These comprised enlarged anatomical models of various parts of the bee, as well as several of the bee itself—queen, drone, and worker—and of a piece of comb containing the various stages of growth from the egg to the perfect insect; while in the bee-tent itself our friend, Mr. Baldwin, had an unusual adjunct to his lecturing "plant" in the shape of a gigantic model of a bee, capable of being taken to pieces and explained to visitors by instalments.

Very seldom do we see so much bee-produce and other material, all attractive and interesting to the bee-keeper, gathered together under one roof as was seen at Edinburgh; but, unlike so many important shows in the south, where, as a rule, bees and appliances form the strongest branch of the bee department, the strength of the show under notice lay very distinctly in the produce division, or that devoted to the art of bee-keeping as exemplified in comb and extracted honey production. The appliance classes were only poorly filled, and, with some exceptions, the goods shown were a little behind the times, to judge by southern ideas. Indeed, we think it is to be regretted that some of our most prominent English appliance manufacturers did not put in a personal appearance at Edinburgh with a representative and thoroughly "up to date" exhibit in the class for collections of appliances. It would, we are sure, do good all round.

On the other hand, in the particular branch of bee-craft known as "fancy work," our Scotch friends came out with tremendous force. Never before have we seen displayed at a single show so many beautiful samples of honey-comb designs, besides some finely finished supers of comb honey. The most imposing exhibits were, of course, those in the class for "best display of honey in any form," in which four entries were staged. The first-prize "display" consisted of 400 pounds of honey, and included eight of the well-known Stewarton supers, all well combed and sealed, two capital "designs" in honey-comb, and about thirty or forty good two-pound sections, the remainder being one-pound sections and jars of fine extracted clover honey. It was built up in handsome solid square

fashion, and did not seem to have a bit of poor produce among the whole collection. Indeed, it was a splendid exhibit. The second-prize lot, though less in height, was also good, and comprised a fine design in honey-comb—three well-combed and handsome boxes of honey, forty-seven two-pound sections, with a good "remainder" of one-pound sections and jars of clover honey, all of fine quality. The third prize was taken by a very nice lot of sections and jars of extracted honey, weighing 200 pounds.

Next in importance—or, indeed, what may be termed the "sensation" of the show—were the honey-comb designs, of which six entries were staged, and, as we have already said, they were a splendid lot of exhibits. The first-prize "design," evidently worked by two stocks of bees, had for its subject a large ducal crown, in honour of H.R.H. the Duke of York, President of the show, and the figures 1893 beneath. These were the perfection of finish in comb-building and sealing, with hardly a single unsealed cell in the whole design. The second-prize one consisted of the word "Scotia" in good-sized letters, each perfect in shape, and having the sheet of foundation forming them attached to the glass in some cunning fashion which entirely did away with any disfigurement such as would be caused by melting the wax to attach it to the glass. There were not six sections in the whole show which could boast of anything like such perfect work in colour, capping, sealing, and finish, as was seen in these six letters, and well might onlookers express wonder and ask, "How is it done?" The third prize went to a design in the form of a crown, with a large letter G beneath—very good indeed, but not quite so perfect as the others. A "very high commend" was also awarded to a design—good enough to take first at most shows—in the shape of a Prince of Wales' feathers and the letters H.R.H. It was a specially good feature of all these designs to see such complete filling and sealing of the cells next the glass with good-coloured honey.

Next in interest came the supers of comb honey, in which sixteen entries were staged in the two classes, among them being some very fine exhibits specially worth notice if space permitted. We must say, however, that we prefer to see these supers shown inverted, with the *bottoms* of the combs upwards, rather than as "designs" are, with top of combs next the onlooker.

Four classes were set apart for comb honey in sections, and the total entries numbered thirty-nine. Among so large a number some good ones could, of course, be found; but Scotch bee-keepers are obviously less expert in securing good sections, especially the smaller one-pound ones, than they are at producing comb honey in other forms. It is not that they can't do it, but somehow they don't; and we mention the "fault" with a view of its being worth remedying.

The competition for extracted honey was divided into five classes, for which there were fifty-nine entries. Some fine samples were shown, and it occupied the judges a considerable time in "sorting." As we had the honour of sharing in this "labour of love," we must not omit mention of an interesting fact which came out as the work went on, and that is the curious—almost amusing—difference of opinion between southern and some northern judges regarding the flavour of honey. The very "character" or distinctness of flavour—outside that of mild-flavoured clover honey—such as is given, say, by a "dash" of heather or of sainfoin, and which so adds to its value in southern eyes, is viewed as a positive defect by some in the north. We were therefore very pleased to find that the "majority" had it, and that the majority was *Scotch*, as it should be at a Scotch show. The remaining classes in this division call for no special comment, except saying that nearly all were well worth staging at so important a show as the one under notice.

In closing our necessarily brief report, we must first congratulate the members of the Scottish B.K.A. on having achieved a very pronounced success at their summer show. The entries were good (196, against 73 last year). Favoured with fine weather, the attendance was all that could be desired, and the interest shown—as evidenced by the crowded state of the bee-shedding and numbers surrounding the bee-tent at each of Mr. Baldwin's lectures—every way satisfactory.

Mr. Wishart, the indefatigable Assistant Secretary, did his best, and did it well, to make the affair a success, and he was ably assisted by Serg.-Major Hill and Mr. Nichol Dodds, as well as by members of the Committee, all of whose names we did not gather. The only drawback, as far as we saw, was the absence, regretted by all, of the Hon. Secretary, Sir Thos. Gibson-Carmichael, who, owing to an accident—happily not serious—was unable to attend.

The following gentlemen officiated as Judges: Hives and appliances: W. Broughton Carr, Rev. R. McClelland, Rev. J. Balfour Robertson, Mr. G. C. Meldrum. Comb honey: Colonel Bennett, Mr. C. Chouler, Mr. J. S. Baldwin, Dr. Murray. Extracted honey: Rev. J. B. Robertson, Rev. R. McClelland, Mr. F. McConnell, Mr. W. Broughton Carr. Wax, confectionery, &c.: Rev. J. B. Robertson, Mr. F. McConnell, Dr. Murray, Mr. S. J. Baldwin.

The Prize List will be given next week.

CRANLEIGH AND DISTRICT BEE CLUB.

The first summer show was held at Stonewall, Cranleigh, on Wednesday, July 19th. There was a most satisfactory entry, and no less than 350 pounds of honey was staged. Captain Campbell, of Guildford, who kindly acted as Judge, expressed himself as highly satisfied, and awarded the prizes as follows:—

Class 1. Largest exhibit of honey.—1st prize, W. Charman.

Class 2. Twelve sections.—1st, H. Kitcher; 2nd, H. Stedman; 3rd, T. Libbiter.

Class 3. Six sections.—1st, G. Knight; 2nd, Miss A. Trussler; 3rd, J. Charlwood.

Class 4. Single section.—1st, Mrs. Maclear; 2nd, W. Charman; 3rd, G. Knight.

Class 5. Six bottles of run honey.—1st, J. Charlwood; 2nd, H. Stedman.

Class 6. Single bottle of run honey.—1st, W. Charman.

Class 7. Frame of honey.—H. Stedman.

Class 8. Super of any kind.—T. Libbiter.

Class 9. Wasp nest.—W. Perris.

Class 10. Amateur frame hive.—H. Kitcher.

Class 11. Frame hive for cottagers.—J. Charlwood.

The prizes were distributed in the evening by the President, W. Welch, Esq., C.C., who congratulated the members on the success of their first show, notwithstanding the wet day.—*Communicated.*

MIDDLESEX BEE-KEEPERS' ASSOCIATION.

The north-eastern province of this Association held a show of honey, hives, and bee-gear on July 29th, in connexion with the Brookfield Horticultural Society, at South Highgate. A commodious tent was provided for the exhibits, and although the amount of honey staged was not very great, some of it was very good indeed, especially that shown by Mr. Harveyson, of Finchley, which was of good colour and consistency, while the sections exhibited by this gentleman were good, and much care had evidently been taken in their preparation. Most of the other honey was more or less darkened by honey-dew. The arrangements were excellently carried out by Mr. Smyth, the local Secretary. During the afternoon the Baroness Burdett-Coutts, the President of the Association, visited the show, and expressed herself gratified at the neat display. The manipulating tent of the Association was also erected on the grounds, lectures and manipulations with live bees being given at intervals by Mr. R. Green, of Raynham, Kent. Two candidates were examined for third-class certificates during the afternoon. Messrs. T. W. Cowan and W. H. Harris acted as Judges and Examiners. The following is the list of awards:—

Class 1. For the best twelve 1-lb. sections.—1st prize (B. B. K. A. silver medal), Mr. Harveyson; 2nd, Major Fair; 3rd, Mr. Durrant.

Class 2. For the best twelve 1-lb. bottles of extracted honey.—1st (B.B.K.A. bronze medal), Mr. Harveyson; 2nd, Mr. Russell.

Class 3. The largest and best exhibit of honey in and out of the comb.—1st, Mr. Harveyson.

Class 4. The best twelve 1-lb. sections of honey (open to members of the M.B.K.A., north-eastern province only).—1st, Mr. Harveyson; 2nd, Mr. Hardman.

Class 5. The best collection of hives and appliances.—1st, Mr. J. Baldwin.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

NOTES BY THE WAY.

[1506.] The notes of travel by Mr. Hooker (1494) are very interesting, and I trust he will find time to post us up in the many apicultural items of news which such a veteran in the front rank of bee-keepers for many years will glean amongst our American brethren in the craft, and also give us some idea of the magnitude of bee-keeping in the States, as illustrated by their honey exhibits at the World's Fair.

I notice that the American bee-keepers are having a capital honey season, taking things generally, and Dr. Millar says 1893 will be remembered as the "White Clover Season.'

The *American Bee Journal* for July 6th contains the long-promised article by Mr. W. M'Evoy, "How to Cure Foul-brood Disease among Bees." The method is simple compared to some medicated methods, and Mr. M'Evoy avers that there is no necessity to boil hives or disinfect them even, where his instructions are followed, and that he cures the colonies in the same hives, no matter how bad the disease has been in them. This statement is diametrically opposed to the generally received views with respect to *Bacillus alvei;* but, coming as it does from a person in authority—in fact, appointed Foul-brood Inspector of the Province of Ontario in Canada—gives the statement great weight, and commends it to the attention of any one who unfortunately has the pest to grapple with. Mr. M'Evoy says his method is well and favourably known in Ontario, and no one finds any fault with it. The chief point is this: if the method radically cures the disease, why, that fact alone dispenses with any scientific arguments.

In last week's *B. J.* Mr. Cribb gives an instance of cure by the continued use of naphthaline, that bears out my contention some time back that, if naphthaline destroyed or sterilised the germs of the disease, the continued application of the remedy must cure in the long run, as the number of germs are, though numerous, a limited quantity, and if naphthaline proves a cure, the simplicity of the method, combined with its cheapness, brings it within the means of the poorest bee-keepers.

"West Yorkshire" inquires for suggestions *re* the domestication of humble-bees. This is an impossibility, as the bees all die off in the early autumn except the queens, which locate themselves in the mossy banks to await the returning warmth of another spring to revivify them to go through another similar experience of life as their predecessors the year before. My son for several years kept nests of humble-bees in some little hives he made for them, but they never stored any amount of honey—just enough to flavour the palate of the embryo entomologist. It was quite a big job with him. First, the nests were spotted; then watched until they were strong enough to remove, then the nest was secured in a box or biscuit-tin, and the bees confined two or three days, and fed liberally on *honey gathered by my bees.* This confinement and feeding (somewhat akin to buttering pussy's feet to induce her to take to her new home) caused the bees to locate in the apiary amongst my own hives, but nothing would induce the queens to continue in the hive for hybernation—though I will admit I never tried humble-bee excluder zinc. Possibly this might have detained the queens, but whether dead or alive I will not venture to say.

Glad to hear our friend "W. Y." makes such a good price for his honey. We have to be satisfied with about half that price.

I trust Mr. Meadows will not forget those two-inch metal ends I mentioned in a previous note, and which we talked over at the Chester show. I think there would be a demand for them for shallow-frame supers, and that something of the kind is required the ingeniously hung little blocks for altering the distance of super frames, as exhibited by the Rev. Mr. Lamb at Chester, proves. These two-inch ends should be of the W.B.C. or similar pattern, so that the same top bars can still be utilised, and the extra width be in the folded ends. The extra honey in the combs would not require any extra capping, and the combs, when once built, would not want more wax in their construction, and the eight frames would contain as much or more honey than the ten frames do now, while a saving of uncapping and extracting two frames would be a certain gain of both time and honey, and consequent money.

The bacteriologists are still investigating. Cholera bacilli remain viable—*i.e.*, infectious—for varying periods: in water, five to six days; in milk, three days; on bread (surface) exposed to the air, one day; between slices of bread kept moist, for eight days; on paper, a day and a half; on copper or silver coins, about ten minutes; after thoroughly drying, on dry clothes, for four days, but on moist linen for twelve days. These results, obtained by a German scientist, are useful as indicating the length of time the various articles of food or clothing remain infectious. Query: How long do our hives, &c., remain infectious after the removal of the diseased bees and combs? Will some of our scientists decide?—W. Woodley, *World's End, Newbury.*

A FEW DAYS AT AN EXPERT'S APIARY.

[1507.] Intending to retire to the country after forty years of Great Babylon, and wanting something to occupy my mind there, I turned to the study of the pursuit of bee-keeping, directed somewhat thereto by what I saw at a "show." But I knew nothing about it, so applied to a friend, who suggested as a first step the study of a book on the subject.

In the reading-room of the British Museum I found what I wanted. In one of them I gathered that yours was the indispensable journal on the subject, and have been buying it ever since. Therein have I learned much more. The set of inferences from my reading, however, was that theory was very good, but in this question needed, much more than most studies, supplementing by practice. Here was a difficulty; but I overcame it by looking through your advertisements, and—selecting one regular advertiser—wrote straight to him with the question: "For how much can I spend a few days in your apiary?" More than satisfied at the moderation of the demand, I placed myself under the tuition of Mr. W. B. Webster, at Binfield, Berks—a stranger, as were all other experts, to me.

A professional and lucid description of an apiary has recently appeared in your *Journal.* If you think the following *amateur's* description of a few days at an apiary may be useful to some of your readers with aspirations like mine, they are at your service.

Here my prepossessions in favour of bee-keeping as a relaxation and occupation for the later and more leisurely time of life were much enhanced and strengthened—most of all, perhaps, by the fact that I soon learned that the instinctive fear of myself and many others of bees, was an entire delusion and mistake. Assisting, as I did for several days, at all the operations incident to a recent period of the year when the bees were not out actively honey-gathering, but idling at home with the proverbial tendency to mischief, *I was stung but once,* though as close to the bees all the time as Mr. Webster himself, and this in presence of the fact that *neither veil nor gloves were used by him or myself,* although the operations of driving and transferring from skep, and the withdrawing and replacing of frames covered with bees, took place in numerous instances.

The apiary consists of nearly a hundred small but inexpensive hives, almost all of which were tenanted, with a wooden honey or manipulating house about the centre. Here, too, I learned how much smaller a space is required for successful bee-keeping than all my reading had led me to infer. I feel sure that a like few days' experience in an apiary would induce very many, especially ladies, to utilise the spaces of a few yards square, say ten by ten more or less, in the parts of their gardens most remote from the house (though with my recent experiences mine will be located but a very short distance

therefrom). I was very much interested in the arrival of a parcel by post from Italy during my visit. To many a postman, I opine, this must be a rather startling phenomenon, from the loud hum and evident excitement within. The contents were a number of queens. The introduction of one of these into a hive, enclosed in a wire cage which I saw, was one of the several things I fear I should never have done successfully without this ocular demonstration.

Of course, the satisfactory and pleasant experience of seeing all the above without being stung—especially when the precautions I had understood from the previous theoretic part of my education to be necessary were not taken—was the most gratifying of all to an aspirant. Other "beginners" will, for their own sakes, naturally ask, "How was it done?" I expected to see some volumes of smoke puffed out from bellows, but I saw none at all, though some amount of puffing from bellows was done. I found that, as with ordinary gas, there was smell without anything to see. A sponge saturated with carbolic was enclosed in this "fumigator." Its smell alone sufficed. Another manipulation, which I should not have understood or realised from my reading, was the drawing over the top of bee-clad frames a piece of calico about the size of a pocket-handkerchief, and impregnated with the smell of this carbolic, immediately after taking off the top of hive, when all the bees rushed away down the frames, generally out of sight. My "instructor" informed me he had not used smoke for eight years, and the value of this carbolic treatment was further proved thus: In the "driving" from the skep above alluded to the honey taken was deposited in the honey-house. Large numbers of bees and wasps tried to get in, and many succeeded. After removal of the bulk much *débris* remained, and that still attracted a large invasion. This attraction was speedily removed by Mr. W. mixing carbolic acid in a pail of water, and having the bench and floor washed therewith.

I have written this from the point of view of what were my own wants. If it prove only a little useful to aspirants and amateurs like myself, I shall be glad.—JOHN PYM, *July 25th.*

DESTROYING WASPS.

[1508.] What a wonderful year is this! Not the least remarkable is the prevalence of wasps. We have literally hundreds of flourishing nests round about. I don't know if you know the value of cyanide of potassium in destroying them. An ounce bottle of the fine crystals suffices for twenty nests, and the immense advantage is, it kills all; those returning from the fields come but to die, as well as every occupant of the nest. It is so deadly, one's conscience revolts almost, though we must save our hives and our fruit.—E. H. BELLAIRS.

WASPS IN SCOTLAND.

[1509.] I send you by post a two-pound section of honey. I would like your opinion upon it. I have removed about seventy-five of these from two hives, and if the wasps will leave the hives alone, I shall have extracted honey. But these are in crowds; fighting is going on constantly, and though in one or two weak hives I have reduced the entrance to five-eighths of an inch, they still manage to dart in. A friendly bee-keeper this morning advised a bottle of vinegar, and on inspecting this I found plenty of wasps, a few house-flies, but no bees, though it was immediately under a hive entrance.

I am sure Mr. Broughton Carr had a hard task in taking notes and judging all the honey exhibits at Manor Park, some of which were beautiful. The designs were surprising, not only as works of art, but as to the apparent quality of the honey and well-filled combs.—X.

[The comb in the section sent unfortunately arrived in a state of pulp; the quality of the honey is excellent, and it has a delicious flavour and aroma. Wasps seem to be unusually abundant this year. Vinegar, with a little sugar in it, attracts them, but they should be destroyed at their nests if possible.—EDS.]

HONEY HARVEST IN SCOTLAND.

[1510.] The following has been taken off one hive this season:—

June	10	11	1-lb. sections
„	12	3	„ „
„	14	14	„ „
„	17	3	„ „
„	21	15	„ „
„	24	5	„ „
„	30	10	„ „
July	6	30	„ „
„	10	5	„ „
„	22	6	„ „
„	24	8	„ „
„	25	13	lb. extracted from body of hive.

123 lb. in all from one hive this season, managed by Mr. Robert Orr, Monkwood Mains Farm, near Ayr.

No. 2 hive, 95 lbs.; No. 3, 92 lbs. This is the best record for years. Mr. Orr only began to keep bees at my urgent request three years ago, and I think the above worth recording. The Edinburgh show has been a great success. —ROBERT J. BENNETT.

Queries and Replies.

[855.] *Bees Cast Out.*—I have a stock of bees in a large skep, and for the last two or three weeks they have been throwing out about a teacupful of dead bees every day, and are still doing so. The bees are still strong. I have taken a ten-pound super from them, and

they have another nearly full. I can't understand it at all, so have enclosed some of the dead bees to see if you can enlighten me. There has been no robbing or fighting. This is a good honey season here, but few swarms. I have twelve hives and no swarms.—J. B., *Blairgowrie.*

REPLY.—There is nothing in dead bees sent to help us in diagnosing the case. It does happen, we know, that bees are occasionally cast out in this way, but the stocks seldom suffer in consequence, and it is very probable the mischief will cease ere long.

[856.] *Protecting Bees in Winter.*—Some of my hives, which are single-walled inch pine, simply stand on the floor-boards, and I am inclined to think they require better protection during the winter months. Some of them are flush with the edges of the floor-boards, and, in order to prevent draught, can you advise me of anything that would resist the effects of wet and frost that I could put round the bottoms of the hives? I am afraid my bees have suffered in previous winters in consequence of the piercing win s getting between floor-boards and hives.—A. EVERETT.

REPLY.—Our strong preference is for a light outer case made large enough to allow a full inch of space on all sides between it and the hive proper. But with hives of inch pine one would think that an outer case is hardly necessary. If the hives do not sit close on the flood-boards all round, we should simply insert paper packing to keep out the "piercing wind" complained of.

[857.] *Value of Honey Districts.*—1. In the third week of May last year I hived a natural swarm from a skep in an ordinary-sized empty skep. The swarm had no artificial assistance whatever. By the second week of August this swarm had completed two, and partially completed two other, one-pound sections in the super, which was then removed. Do the above facts suggest to you a good, medium, or poor honey district? 2. What do you recommend as being best to place in the one-inch space between the two walls of my double-walled hives before winter? 3. Should the space in the front of the hives be also filled? 4. Should the enamelled cloth be removed and replaced by unbleached calico? If not by the latter, with what? 5. Are all thistles visited by Italian bees for honey? There are a good many thistles growing in the pastures here, but I have not yet succeeded in seeing a honey-bee on them.—T. B., *Middlesex.*

REPLY.—1. It is impossible to estimate the value of a district from data given, as much depends upon size of swarms, method of management, and season. Honey must not generally be expected from swarms in skeps the first year, unless they are (1) very early, (2) very strong, and (3) induced to build in supers, (4) favourably situated and the season a good one. If supers are placed on the hives at the same time that the swarm is hived, and the weather favourable, they may frequently be removed filled, provided the swarm be a strong one, even without artificial assistance. Last season was not considered a good one in Middlesex. 2 and 3. Nothing is required between the walls of ordinary double-walled hives. 4. The enamel cloth may be either removed, and substituted by unbleached calico, covered with a chaff box or cushion, or several folds of warm material, or, it may be retained, but in this case great care must be taken to have sufficient warm covering above to prevent condensation below, and the entrances should be opened to their full width to allow of free ventilation. 5. Most thistles are visited by bees when the weather is favourable for honey secretion.

[858.] I shall be much obliged if you can let me know the fault which causes the failure of the enclosed super foundation. I had twenty pounds weight, and cut it up as I unpacked it, and placed it on the hives at once. On removing the supers I find scarcely a section satisfactory, and in most cases the combs are badly built on to the dividers, which are tin; in other cases the foundation is built out on one side, and simply flattened down to a smooth surface on the other. Some sections have drone comb built on the base, where the bees have removed the cell walls; but the majority are finished off on one side, and a comb or combs built at right angles between the foundation and divider. Where I have placed sections filled with another make (natural-based) in a crate with the others, even when only one or two, the natural-based foundation has been worked out and finished, while the others are utterly ignored by the bees. I had all fitted in sections of Simmins' patent, with saw-cut right through the same, as I have used for some seasons with the greatest satisfaction. I have not used a great deal of flat-based foundation; but as I see in your *Guide-book* you describe it as the cheapest and best, I presume the base has not much to do with it. I have spoken to a neighbour of mine who has used some of the same make, and he says the bees have made holes through the base of the cells in a great many cases. You can imagine what an amount of work and loss of profit this means where over fifty hives are kept, and I am afraid the mischief must be widespread, as the dealer from whom I procured the foundation says he had it from his usual wholesale house, and in answer to their complaint, it was stated that the foundation had to be made too thin because customers will have a certain number of sheets to the pound.—COMB-STRAINER, *July 24th.*

REPLY.—We are not at all surprised at the bees refusing to work on the foundation sent. Foundation made of bleached wax is particularly objectionable to bees, as it is devoid of that pleasant aroma possessed by good wax, and is much more brittle, and not so tenacious and malleable. The bases of the cells of sample

sent are not regular; but this is only a fault in the setting of the foundation rolls, and has nothing to do with the bees not accepting it. In *Guide-book* we say: "For sections we require a thinner foundation, and for this purpose there is nothing to equal the thin, flat-bottomed foundation, which is nearly as transparent as glass, and averages twelve to fourteen feet to the pound." Nothing is said about its being the "cheapest," and in the matter of foundation for sections, price with us would have no consideration, provided we got it made of pure, pale yellow wax, and much more transparent than the sample you send. So long as bee-keepers demand white foundation for sections, dealers will supply it; but this, even if pure, the bees do not like, and its production should be discouraged. We have had similar experience in the early days of foundation, and had a super worked where thin sheets of foundation were untouched and used as separators, the bees building combs between.

[859.] *Stores for Wintering.* — Will you kindly oblige by answering the following questions, viz.:—1. I have seven frames of brood and honey in one hive, the two outside frames being, I believe, full of sealed honey. Please say should I remove them or leave them for winter consumption? 2. I hived a swarm in a bar-frame a month ago on five frames of foundation. They seem to have done badly; the combs are all shapes, some being joined together at the middle; and now they keep carrying bees out not quite dead, and young bees and grubs. They seem to be dwindling away; could you tell me the cause? 3. As it is very cold up here in winter, and having a large room empty over kitchen, would the bees do in here through the winter if I removed them after they had been packed up for winter? Your advice will gratefully oblige — W. G. S., *Baxenden.*

Reply.—1. If your hive has only seven frames now, you must not remove any of the honey; on the contrary, we should advise you to feed your bees gently, and stimulate brood-rearing to build up the colony before leaving it for winter. Unless this is done the colony will dwindle, and become too weak to pass the winter safely. 2. The combs are probably irregular owing to the foundation not being properly fixed or its having buckled. The bees appear to be either short of food or are dying from disease, but more information is needed before a definite answer could be given. Examine the hive and see what the appearance of the brood is like, if there is any honey in combs, and send a few of the bees that are "not quite dead." 3. It is not advisable to winter bees indoors in England, and they do better packed on their summer stands. If the room you mention is not used for any other purpose, our idea would be to make it a permanent apiary, allowing the bees to pass through openings in the walls. It would make a splendid bee-house.

[860.] *Renewing Queens.*—Will you kindly answer the following question? I have two hives with old queens in, and I want them re-queening; if I take the old ones out will the bees raise young ones, or is it too late in the season? There are plenty of drones and bees, but I find they have not gathered as much surplus as usual, so I think the queens are at fault. — Edward Cooper.

Reply.—We do not advise you to take away queens, or allow the hives to re-queen themselves so late in the season as this. If you remove the queens now it would be a fortnight before a queen hatched out, and another week before she would begin to lay, even if she became fecundated. There is also the risk of the queen not becoming fertilised so late in the season, especially as drones are becoming very scarce. If you can drive some skeps containing second or third swarms, these would be headed by young queens, and could be advantageously united to your colonies after removing old queens.

[861.] Would you be so kind as to answer the following questions through the *Bee Journal?* I had a top swarm in a straw skep which has yielded twenty pounds of honey in supers. On July 18th, on returning from church, I was informed that one of my hives had swarmed, and that it came from the above-mentioned top swarm. Now, what I want to know is this:—1. If this skep has really swarmed, as it was strong in bees when I examined it, and saw no queen-cells but one (unsealed)? Also there were two queens with swarm, as I found one lying on the board next morning. The top swarm had been killing its drones previous to this. 2. Do bees gather pollen off the heather, and what colour is it? 3. Is the enclosed spray of heather the right sort for producing honey?—Wm. Small, *N.B.*

Reply.—1. We should think it more likely that the swarm with the two queens was a second swarm, and not from the first swarm in skep. Bees do not kill off drones when they are about to swarm. 2. Bees visit heather for the honey, and not pollen. 3. The specimen enclosed is the right kind, namely, *Calluna vulgaris*, heather or ling.

[862.] 1. Last spring I purchased over 200 patent sections and separators made of tin. My disappointment was great when I took my crates off to find that three-fourths of the sections were spoilt, owing to the bees having stupidly built the comb on to the tin separators, making it impossible to take the sections out of the crate without cutting them from the separators, and so uncapping the honey. Can you account for this? 2. I am sorry to say that nearly all my honey is of a very dark colour, except that stored in a few frames in each hive and the first sections put on. I propose returning it as I have divided my stocks and am putting in driven bees to help them. Could you tell me what proportion of water and sugar I ought to add in order to prevent the bees fighting over it? I enclose

cutting from *Rural World*.—BEE-KEEPER, *N. Norfolk*.

REPLY.—1. A careful examination of the sections would best decide the reason for bees joining the combs to the tin separators. It is possible the foundation gave way owing to the heat, and if the combs bulged to one side they would be attached to separators. The giving way of foundation may be caused either by not being properly fixed, being impure, or excessive heat. 2. The dark colour of your honey is probably owing to an admixture of honey-dew. The quantity of water will depend upon its consistency, but it should be diluted to about that of syrup.

Bee Shows to Come.

August 2nd to 4th.—Yorkshire Agricultural Society at Dewsbury. Prizes for honey and bee appliances. Entries closed.

August 7th.—Berks Bee-keepers' Association, Newbury District, in connexion with the Flower Show in Shaw Avenue, Newbury: 11*l.* cash prizes. Entries close August 1st. Hon. Sec., W. Hawkes, Newtown Road, Newbury. For schedules apply to T. D. Schofield, Oakfield, Alderley Edge, Cheshire, or the Secretary, Mobberley. Entries closed.

August 7th.—Bee and honey show at Vale Royal, under rules of the Lancashire and Cheshire B.K.A. Entries closed. Schedules from John P. Ricketts, Hon. Sec., Davenham, Cheshire.

August 7th and 8th.—Northants B. K. A. Annual Show at Delapre Park, Northampton. Five special prizes, viz., 20*s.*, 15*s.*, 10*s.*, 5*s.*, and 2*s.* 6*d.*, for single 1-lb. sections, entry free. For particulars apply to Robert Hefford, Hon. Sec., Northants B.K.A., Boughton, near Northants.

August 7th and 8th.—Notts B. K. A. Annual County Show at Mapperley, Notts, in connexion with the Porchester Horticultural Society. Entries closed. A. G. Pugh, Secretary, Mona Street, Beeston, Notts.

August 12th.—Wotton-u-E. District Annual Show of Honey and Cottagers' Flower Show. £20 in prizes. Entries close Saturday, August 5th. Schedules of G. Gunston, Hon. Secretary, Bradley Green, Wotton-under-Edge.

August 15th and 16th.—South of Scotland B.K.A. at Dumfries. Wm. Wilson, Secretary, Acrehead House, Dumfries.

August 16th.—Kent B. K. A., in connexion with the Sevenoaks Horticultural Society's Show, in Knole Park, Sevenoaks. Entries close August 12th. Hon. Secretary, Jesse Garratt, Meopham, Kent.

August 19th.—Bee and honey show at Mobberley, Cheshire (under the rules of the Lancashire and Cheshire B.K.A.), and in connexion with the Mobberley Horticultural Society.

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries close August 15th. For schedules apply John Latham, Secretary, North Albion Street, Fleetwood, Lancashire.

August 31st.—Castle Douglas Horticultural and Honey Show. Schedules and all information from Wm. Blackwood, Secretary, Castle Douglas, N.B.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main St., Alexandria, N.B.

September 5th and 6th. — Warwickshire B. K. A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec., Knowle, Warwickshire. Entries close August 26th.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Echoes from the Hives.

Leeds, July 29th, 1893.—Took bees to moors last week; heather just coming into bloom, fortnight earlier this year. Took the hives *out* as heavy with clover as they generally are when we come from the moors, so they must store it upstairs. This, again, saves us a week (usually occupied in storing heather in brood nest). Clover and flower yielded fifty pounds per hive, the "record" for this second-rate district.—R. A. H. GRIMSHAW.

Northampton, July 30th.—The honey-flow came practically to an end at the close of the first week of the current month. The second week was wet, windy, and, for the time of the year, so cold that the bees took holiday and stayed at home. In the third week matters improved, and mallows, marrows, wild convolvulus, French beans, and scarlet runners swarmed with busy searchers after nectar and pollen. The majority of them attacked the last-named flowers externally, standing on the outside of the keel. Humble-bees made use of the tube. The weather of the fourth week was still more favourable. An abundant second crop of clover close by claimed the attention of the bees; but, alas! no appreciable addition was made to the supers, which must be lifted to-morrow to prevent their contents being used to further clog the brood chambers. After all, in this vicinity at least, the extraordinary season of '93 will prove but an ordinary

one as far as yield is concerned, for there will be little, if any, more surplus honey than last year's crop. The quality of the honey varies from exceedingly nice to rather nasty. Humble-bees are still scarce. Wasps show a decided increase, but as yet they are not particularly troublesome.—E. B., *July 30th.*

JOHN HUCKLE TESTIMONIAL FUND.

The following sums have been received or promised :—

	£	s.	d.
Amount already acknowledged ...	36	10	0
Miss M. Gayton ...	0	10	0
J. G. Highton ...	0	10	0
Robert Philipson ...	0	2	6

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

QUILT.—Bees are always more or less inclined to gnaw at quilts, but there is no reason why they should do so more in your case than in others. We notice, however, that you use the quilt with the rough side downwards, and this gives the bees a better opportunity to nibble at it. Turn it over, and see if it makes any difference. We prefer unbleached calico, which is renewed every year.

W. BARKER.—Judges are usually governed by rules and regulations contained in the schedules. There is no rule in the schedule of your show to prevent two exhibits from the same person being entered in same class, and, as the judges do not usually know the names of exhibitors, they cannot tell if the exhibits come from the same apiary or no. Nor do we see any restriction put upon two brothers working in common — exhibiting in the same class. It is usually stipulated and understood that the judges are empowered to withhold any prizes if they do not consider the exhibits good enough, or, with the consent of the Committee, to award extra prizes; their award shall in every case be final, except where it can be proved to the satisfaction of the Committee that the rules and regulations have not been complied with. Rule 3 provides that a written protest can be made by a certain time, but we hardly think in this case the Committee would have altered the judges' decision, seeing that it was strictly in conformity with the rules contained in the schedule.

J. GRISSELL.—The Secretary of the Kent Association is Mr. Jesse Garratt, Meopham, Kent.

R. F. THOMAS.—The insect sent is not a bee at all, but belongs to the *Diptera*, or flies with two wings. It is called *Eristalis tenax*, and the chrysalis you send is the development from a rat-tailed maggot.

J. B.—*Adulteration of Foundation.*—You may roughly test your foundation in the following manner to ascertain if it contains ceresine :—Put a small piece of the foundation into a basin and melt it, taking care not to overheat it. In another basin dissolve a piece of soda about the size of a nut in two spoonfuls of hot water. Then mix the two. If the comb foundation is of pure beeswax, the resulting mixture will become a white mass in consequence of the soda saponifying the wax. If, on the other hand, the foundation contains ceresine, this will float on the surface in the form of an oily substance, because ceresine does not saponify with soda.

FRANK BALL.—*Name of Plant.*—The flower sent is that of melilot clover (*Melilotus leucantha*), and is frequented by bees.

C. LIMOND.—Drones are Carniolan; workers, Carniolan and black.

W. CORKSON.—Smoke does affect honey, but the dark colour in the sample sent is owing to an admixture of honey-dew.

T. M.—The sample of flower honey sent is of good flavour, colour, and consistency. Please kindly observe our rules in future, as anonymous communications are not usually noticed.

S. H. (Windsor).—The honey is very good, and quite worth entering for competition. No. 1 is the better flavour of the two.

W. R. TRAVISS.—We do not think bees will do anything more on clover this year in the way of storing honey. We should certainly remove the filled section, and if there is much honey in hive you could extract some of it for your own use. You would have to feed the bees if you took it all away. The British Bee-keepers' Association is the Central Society. Secretary, Mr. J. Huckle, Kings Langley, Herts. Membership subscription from 5*s.* upwards. It holds its meetings in Jermyn Street, London. It has County Associations affiliated to it, one of which is the Middlesex Association : Secretary, Major Fair, 11 Anlaby Road, Teddington. Either of the Secretaries would supply you with the information you may require.

F. O. R. (Ireland).—The honey is good in colour and flavour, but rather wanting in consistency.

EGG (Bristol).—The comb sent is foul-broody—caused by germs of *Bacillus alvei* attacking brood. Can be cured with Naphthol Beta given in syrup, and prevented by placing naphthaline in hives and using the utmost precaution as to cleanliness. See *British Bee-keepers' Guide-book*, page 144, for full particulars of treatment.

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GUARANTEED Healthy Pure Natives.—Fine Young Fertile Queens, 3s. 6d. each; 3-Frame Nuclei, 10s. 6d.; 6-Frame Stocks, 17s. 6d.; 8-Frame ditto, £1, packing included. CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. B 29

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Six 1-lb. Sections of Honey-comb, $4\frac{1}{4} \times 4\frac{1}{4} \times 2$ inches, to be shown in tin Sections, holders blue or slate-colour. 1st Prize, 20*s.*; 2nd, 10*s.*; 3rd, 5*s.* Entrance Money, 2*s.*

Schedules and all Information from the Secretary,
Wm. BLACKWOOD, *Castle Douglas.* 156

GLEANINGS IN BEE-CULTURE.
Edited by A. I. ROOT.
Published Fortnightly. Post free, 5*s.* per annum.
Bee Journal and *Record* Office, 17 King William Street, Strand, W.C.

British Bee Journal and Bee-keepers' Record.

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THE
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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—A close observance of the bee-pasturage on a recent journey of 400 miles north from London, very clearly accounts for the wide difference in the clover-honey crop in the northern and southern divisions of the kingdom. All along the entire route, after getting 150 or 200 miles away from the metropolis, unmistakable traces could be seen of how little mischief to the clover plant had been wrought by the terribly dry time we had in the south earlier on. The fields all around gave plain evidence of having been luxuriant with clover bloom up to a few days before we saw them, and the prognostications of those who predicted a failure of next year's crop through the drought of 1893 seem likely to be agreeably disappointed.

THE SEASON.—It sometimes makes one wonder what British bee-keepers would say if a honey season occurred in this country anything like what—according to a recent issue of *Gleanings*—is being gathered in some parts of America. One Californian bee-keeper reports having secured "seventeen tons of honey, and 175 increase from my 250 hives this season!" Another, located in the same State, says:—"Our bees are doing well. Had 160 colonies, 290 now; have taken ten tons of honey and still at work!" The "set-off" against these big returns, however, lies in the fact that honey in the U.S.A. realises less than half the price British honey will usually fetch here. But everywhere in the States a big crop is being taken, and it may be well to offer a hint to our bee-keepers against "holding" their produce too long, in case a few scores of tons are sent over to swamp our market. It is not very likely, however, that such a thing will occur.

NEW APPLIANCES — LANGDON'S NON-SWARMER—SUPER-CLEARERS, &c.—Referring first to Mr. Langdon's device, it is refreshing to note how frankly and promptly its present defects are admitted by the inventor himself in the letter which appears on p. 315 of this issue. The device has not proved so great a success this year as last, and Mr. Langdon points out where it has failed, but hopes to remedy the faults in time. The method is in itself so simple as to commend it for general acceptance, but does it not verify the need for a full and thorough trial of such things before being sure that they will accomplish what is claimed for them? The same may be said of super-clearers; it takes quite a time to find which is to take top place as the most reliable article. In following out our view of testing we have made trials of all kinds this season—under varying conditions — from the home-made or amateur's clearer to the most "up to date" one. And we had a very decided "case" against the former just before leaving for the north. A clearer was sent for approval which was supposed to do its work as well as the best. It was in "board" form for slipping between surplus and brood chambers, seven cones of tin forming the exit from one to the other. Well, this clearer (?) was on the morning of July 20th set below a full box of shallow frames ready for removal. At night we proceeded to take off the box, but found it just as full of bees as in the morning. Next morning showed no diminution in numbers, and at night we thought the box was rather more crowded than ever. On the third morning no improvement was perceptible, the bees showing not the slightest intention of going below, and we thought that if forty-eight hours' trial did not suffice to clear the box it was time to stop, so the box was lifted and a clearer with a single spring escape in the board was slipped over the one already on. A few hours later we returned home, and on

lifting the quilts not a single bee was found in the box. This trial confirms the view we have held all along, viz., that the slighter the connexion between surplus and brood chambers the greater the inducement for bees to desert the former and join the queen and bees below.

"A PLAGUE OF WASPS."—At one time, early in the year, it was thought that wasps this autumn would be conspicuous by their absence, so few queens were seen about hives. But it appears we are having a regular "plague" of these pests to fruit-growers and bee-keepers. A correspondent (1508, p. 305), last week, recommends cyanide of potassium for destroying them, and, as quite an extensive correspondence is now going on in the *Standard* about "The Plague of Wasps," it may be well to cull from it some corroboration of Mr. Bellairs' testimony as to the value of the method of destruction recommended. One writer, dating from Chelmsford, says:—

"As a proof of the presence amongst us of a very distinct wasp plague, I may mention that my gardener has within a few weeks destroyed forty-one wasps' nests within a radius of three hundred yards of my house. Yesterday he watched the proceedings of a number of wasps infesting an early apple-tree, and observed them come and go in one direction. Following their course, he presently found two nests in the ground. The nests were close together, and of great size. He spoiled them both by placing a spoonful of cyanide of potassium at the orifice.

"His crusade has made a difference in the number of wasps coming into the house, and we now seem to have a chance of gathering a fair proportion of our enormous plum crop. If a few people in a neighbourhood infested as we have been would combine, and pay an intelligent man to follow up the wasps, great relief would ensue."

Another correspondent writes:—"In your article of to-day you say, 'Cyanide of potassium is not the best substance for disposing of wasps.' I have destroyed a large number of nests with it this season. Simply dissolve an ounce in an ordinary pint-and-a-half bottle of water, pour a very small quantity into the entrance to the nest; it will soon quiet them, and you may dig out the nest in a very short time, and all inside will be found quite dead. I have been stung in trying other means of destroying them, but never with this; and it is singular, I have never known them attack any one or thing after they have had one dressing. I think, with ordinary care, it is perfectly safe, and, in my opinion, nothing is so easy and effectual."

Others, in the same issue, recommend the better-known remedies, such as turpentine or coal tar, both of which are effective.

Cyanide of potassium is so deadly a poison as to be dangerous unless in the hands of those who know its nature, and exercise the needful care to prevent harm, but its great usefulness will be admitted in special cases.

JOHN HUCKLE TESTIMONIAL FUND.

The following sums have been received or promised:—

	£	s.	d.
Amount already acknowledged ...	37	12	6
Sir Thomas D. Gibson-Carmichael, Bart.	3	3	0
Fredk. H. Lemare ...	0	10	0

SCOTTISH B.K. ASSOCIATION.

(*Concluded from page* 302.)

PRIZE LIST.

Appliances.

Class 2. Collection of appliances.—1st prize, R. Steele, Gauldry by Dundee; 2nd, James Ross, Stranraer.

Class 3. Best hive for general use.—1st, C. Redshaw, South Wigston, Leicester; 2nd, W. P. Meadows, Syston, Leicester; 3rd, R. Steele.

Class 4. Best hive for general use and transmission to heather.—1st, R. Steele; 2nd, C. Redshaw; 3rd, W. P. Meadows.

Class 5. Best frame hive made by an amateur.—1st, J. McDonald, Lynchat, Kingussie; 2nd, A. Paterson, Scotsburn, Delny.

Class 6. Best super or crate, specially constructed for the sale of honey in parcels.—1st, R. Steele; 2nd, C. Redshaw.

Class 8. New invention or improvement.—Silver medal, W. P. Meadows (super-clearer); certificate, W. P. Meadows (swarm box for carrying, hiving, or sending by rail, with clustering arrangement); certificate, C. Redshaw (observatory section crate).

Honey, &c.

Class 10. Design in honey-comb.—1st, W. Wilson, Dumfries; 2nd, W. Wilson; 3rd, S. Roebuck, Dumfries; h.c., S. Roebuck.

Class 11. Display of honey.—1st, W. Wilson, 400 lbs. gathered in 1893; 2nd, S. Roebuck, 250 lbs. gathered in 1893; 3rd, W. Wilson, 200 lbs. gathered in 1893.

Class 12. Non-sectional super of comb honey. —1st, S. Roebuck; 2nd, W. Wilson; 3rd, S. Roebuck; h.c., W. Wilson.

Class 13. Super of comb honey, not exceeding 10 lbs.—1st, W. Wilson; 2nd, J. Henderson, Kilmalcolm; 3rd, S. Roebuck; h.c., W. Wilson; commended, S. Roebuck.

Class 14. Six 2-lb. sections.—1st, S. Roebuck; 2nd, W. Wilson; 3rd, H. Marrs, Thornton, Rosewell.

Class 15. Twelve 1-lb. sections.—1st, A. Strathdee, Ballindalloch; 2nd, S. Roebuck; 3rd, W. Wilson; h.c., W. W. Pryor, Welwyn, Herts.

Class 16. Three 1-lb. sections.—1st, G. Symington, Coodham, Kilmarnock; 2nd, J. Learmont, Castle Douglas; 3rd, S. Roebuck; h.c., A. Strathdee; commended, G. Symington.

Class 17. Best six 1-lb. sections gathered in Scotland.—1st, J. Learmont; 2nd, J. S. Dudgeon, Long Newton, St. Boswells; 3rd, S. Roebuck; h.c., J. Henderson; commended, C. N. Craik, Dalkeith.

Class 19. Best 8 lbs. heather honey in sections.—1st, W. McDowall, Kirkcowan.

Class 20. Best 24 lbs. extracted honey.—1st, S. Roebuck; 2nd, W. Wilson; 3rd, W. Wilson; h.c., T. Kennedy Newbigging, Dumfries.

Class 21. Best 6 lbs. extracted honey gathered in Scotland.—1st, G. Symington; 2nd, S. Roebuck; 3rd, W. Wilson; h.c., W. Wilson; h.c., G. Symington.

Class 22. Best 3 lbs. extracted honey.—1st, J. Learmont; 2nd, Captain W. St. G. Ord, Bury St. Edmunds; 3rd, H. W. Seymour, Henley-on-Thames; h.c., S. Roebuck.

Class 23. Best 6 lbs. granulated honey.—1st, Captain W. St. G. Ord; 2nd, W. Wilson; 3rd, S. Roebuck; h.c., W. Wilson.

Class 24. Best 6 lbs. extracted heather honey.—1st, J. McDonald.

Class 25. Best beeswax, not over 30 lbs.—1st, R. Steele; 2nd, W. Wilson.

Class 26. Best beeswax, not over 2 lbs. —1st, H. W. Seymour; 2nd, R. Steele.

Class 27. Confectionery.—1st, Miss A. Gordon, Dunoon; 2nd, Miss J. Aimers, Melrose; 3rd, W. R. Luca, Liberton; very h.c., Miss J. Aimers, Melrose.

Class 28. Most interesting and instructive exhibit connected with bee-keeping.—1st, G. Wells, Aylesford, Kent (perforated dummy for dividing brood nests).

LANCASHIRE AND CHESHIRE BEE-KEEPERS' ASSOCIATION.

Under the auspices of this Association, an exhibition of honey was held at the "Royal Manchester, Liverpool, and North Lancashire Agricultural Society's Show," at Blackpool, on the 26th ult., and two following days. There were five classes, and a large entry in each, especially in those in which run honey was exhibited. High honour was paid to the Association in having its quarters contiguous with the Society's offices, &c.; but the accommodation, which was scarcely adequate to the occasion, might be—no doubt will be—improved in future in some of its details under the kindly and most attentive Secretary of the show, Mr. James Birch, who evidently wished our Association well.

The prizes were good, the B.B.K.A.'s silver and bronze medals being added to substantial money prizes in the *first* awards for the open classes for sections and run honey.

For sections there were twelve entries and three prizes, the first falling to Miss Susan Ward, Hadnall Hall, Shrewsbury, with a very fairly uniform lot. Mr. Thomas R. Horton, Much Wenlock, Shropshire, took second prize, and the third went to Mr. W. Woodley, World's End, Newbury. Mr. A. Peck's exhibit (Southport) was commended. On the whole, the sections were *not* first-rate.

For twelve jars of 1893 run honey twenty competitors appeared, and it was evidently a task to judge the exhibits evenly and fairly. There was, at the end, no doubt about the first prize, which went to Mr. Woodley for a splendid sample of sainfoin honey with exquisite flavour and consistency. Mr. John Palmer, Ludlow, Salop, was awarded second, and the third fell to Mr. Thomas Greenhalgh, Newton-le-Willows—a well-known local man. Messrs. James Gorst, of Lancaster, and G. W. Carr, Fleetwood, were respectively highly commended and commended.

The next class was for twelve jars of run honey collected during 1893 within the Agricultural Society's districts. This caused considerable competition, there being eighteen entries, all of *such merit* that the judge was almost perplexed, and had to exercise the utmost judgment in his verdicts. Mr. W. H. Parker, Waterworks House, Ormskirk, finally became first winner; the Rev. E. Charley, Ince Vicarage, Chester, second; and Mr. R. W. Nickson, Frodsham, third. The nicety in points amongst those following was testified by Messrs. Thomas Greenhalgh, Leo Mason (Kirkham), J. Heyes (Bickerstaffe), J. Gorst (Lancaster), and J. Cragg (Great Eccleston), being highly commended; and John Wright, jun. (Thornton), and G. W. Carr (Fleetwood), commended.

Classes, limited to *bonâ-fide* cottagers, for six sections and six jars of run honey concluded the programme. There were only *five* entries (one missing) of sections, and, with one exception, they were poor. Owen Roberts, Rowton Grange, Chester, gained first prize; John Hale, Croston, second; and Thomas Greenhalgh, Newton-le-Willows, third. The run honey was much superior, and there were seven competitors—James Cragg, Great Eccleston, proving first; John Hale, Croston, Preston, second; and Owen Roberts, Chester, third; whilst Thomas Greenhalgh and W. H. Parker were commended.

In the judgment of the experienced ones present, it was unanimously considered that a better show of honey, as regards quality and uniformity, had never been brought together within the limits of the Lancashire and Cheshire Bee-keepers' Association. The judge concurred in this view, and it is hoped that the success of the present season will do much to raise the lately drooping spirits of many Lancashire and Cheshire bee-keepers, and tend, also, to give a spurt to the increasing numbers and success of the Association, stimulated, as it now is, by the practical apiaries, classes, and lectures, instituted by the Lancashire County Council, and the encouraging report of last year's results, just published by Mr. J. A. Bennion, M.A., the Director of Technical Instruction, in his Blue Book. The Rev. J. F. Buckler, Bidston Rectory, Cheshire, officiated as judge of the honey department.—*Communicated.*

NOTTINGHAMSHIRE BEE-KEEPERS' ASSOCIATION.

SHOWS AT HUCKNALL-TORKARD ON JULY 25TH; SOUTHWELL, JULY 27TH; AND ARNOLD, JULY 31ST.

That the present season has been one favourable for the bee-keepers of Notts, both for quantity and quality—and especially the latter—is amply proved by the exhibits at the above-named shows. It is hardly too much to say that, as far as the extracted honey was concerned, almost every entry was of very high excellence, both as regards quality and style of get-up, and we think that here is shown unmistakably the result of the years of painstaking work and instruction of the Notts Bee-keepers' Association and its energetic secretary. Though a very busy man, Mr. Pugh finds time to arrange a larger number of shows than are held in any other single county, and, through the help of the local secretaries, all the details are perfect, and each show goes off without the least hitch or confusion.

At *Hucknall-Torkard* there were no less than twenty entries for extracted, and seven for honey in sections. The first prize for extracted fell to some rather dark honey, just delicately flavoured with heather—this being gathered on the Derbyshire border of the county. The other prizes went to local samples; these, in most cases, being very good in colour especially, though most had a peculiar flavour, the bees having evidently found some unusual source of supply in this exceptionally hot and dry season. The awards were as follows:—

For best 12 sections comb honey.—1st, Mr. Wiggett, Hucknall; 2nd, Mr. Pett, Nottingham; 3rd, Mrs. Hind, Papplewick.

For best 12 1-lb. bottles run or extracted honey.—1st, Mr. Wootton, Draycott; 2nd, Mr. T S. Elliott, Southwell; 3rd, Mr. T. H Frommongs, Radcliffe; 4th, Mr. A. G. Pugh, Beeston.

For best specimen of bees and queen in a unicomb hive.—1st, Mr. Pett; 2nd, Mr. H. Hill, Ambaston; 3rd, Mr. Wiggett; 4th, Mr. H. Cartledge, Hucknall.

For best 6 jars of run or extracted honey (local).—1st, Mr. Wiggett; 2nd, Mr. H. Cartledge; 3rd, Mr. W. H. Cartledge, Hucknall.

For best 2 shallow frames of honey.—1st, H. Cartledge: 2nd, Mr. Wiggett; 3rd, Mrs. Hind.

At *Southwell* the judge had a difficult task, a finer or more even lot of extracted honey being very rarely seen. There were twenty-one entries for extracted, and twelve for comb.

The first-prize honey at Hucknall here again secured the premier award. The other prizes were awarded to samples that would have been prize-takers anywhere, being for flavour, ripeness, and colour, about perfect.

Comb honey in sections was, all round, better than at Hucknall, one exhibit, in glass sections, being especially well filled and of fine flavour; this secured second prize. The comb honey, in bell-glasses, was quite a large class, and though fair, calls for no special remark, as only one sample was of really fine flavour. The awards were as under:—

For best 4 2-lb. sections.—1st, Mr. Marshall, Norwell.

For best glass super of comb honey.—1st, Rev. H. L. Williams, Bleasby; 2nd, Mr. Geo. Wood, Oxton; 3rd, Mrs. C. White, Newark.

For best 6 2-lb. sections comb honey.—1st, H. Merryweather, Southwell; 2nd, Mr. Mortimer, Oxton; 3rd, Mr. Measures, Upton.

For the best 6 1-lb. jars run or extracted honey.—1st, Mr. Wootton, Draycott; 2nd, Mr. Lee, Southwell; 3rd, Mr. Mortimer.

For best unicomb hive with bees and queen.—1st, H. Merryweather; 2nd, Mr. A. J. Mortimer, Oxton.

At *Arnold* the extracted honey was again of high excellence, but the comb honey hardly up to the mark of that at the previous shows. Awards as below:—

Best 6 sections of comb honey.—1st, H. Merryweather, Southwell; 2nd, Mr. Pett, Nottingham: equal 3rd, Mr. Wootton, Draycott, and Mr. Brooks, Eastwood.

Best 6 1-lb. bottles of run or extracted honey.—1st, Mr. Wootton; 2nd, Mr. Elliott, Southwell; equal 3rd, Mr. Hill, Ambaston, and Mr. Wood, Oxton.

Best specimen of bees with queen in unicomb hive.—1st, Mr. Mortimer, Oxton; 2nd, Mr. Hill: 3rd, Mr. Brooks.

At each show lectures with manipulations were given in the bee-tent by Mr. T. B. Blow, who also acted as judge in the honey classes. Some of the Notts County Councillors put in an appearance at these shows, and evidently appreciated the way in which the subsidy received by the Bee-keepers' Association from the County Council was being applied.—*Communicated.*

ANALYSIS OF HONEY.

We have recently returned from Strasburg, where we have had the opportunity of testing Dr. Haenle's methods of detecting adulteration in his own laboratory. We have been so convinced of the value of these methods that we would like to apply them to British honeys. In order to carry out our experiments, we should be glad if any of our readers would supply us with samples of honey from known sources, and also more particularly honey-dew and dark honey containing honey-dew. Quarter to half-pound jars would be quite sufficient. We should also like specimens of heather honey, as well as buckwheat honey.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

LANGDON NON-SWARMING DEVICE.

[1511.] Your welcome favour of May 29th from Switzerland was received in due time, and now that I have had the present year's experience and the benefit of the few reports that I have received from those using them, I will make a report to you about the non-swarmer. You have my thanks for the manner it is shown in the *B.B.J.*, and for the information and advice in your last letter.

I regret to say that the non-swarmer does not do for me just as well as it did last year. How much this depends on a difference in the season is hard to tell. There has been some swarming, a small per cent., from the sixty non-swarmers in operation in my house apiary, and I find from my experience, and the few reports from those using them this season, that there are at least three points that it will not affect, viz., once in a while a queen is killed, and hatching cells make some trouble afterwards. If the queen is old and the bees try to supersede her, they will build cells in the closed hive, and then if it is opened soon after she will lead out a swarm. This can be stopped by keeping all queens in their prime, as all bee-keepers ought to do. Also, it is known that they will sometimes swarm with only eggs in the queen-cells that they leave. Running so many bees into the same hive seems to encourage this extreme of the swarming fever, and it has been done more frequently with the non-swarmer in place than before. To what extent shading the hives would help this is yet to be seen. Also, there might be a great difference in races of bees as to that point. I have only Carniolans, and so cannot tell about the Italians yet.

These are exceptions; but they may stand in the way of having the plan largely adopted by those who can make self-hivers a success, or those who can care for their bees in swarming-time. I have over 500 on trial in different parts of the country this season, and will know more about its success before long. I can make it of important use to me in my house, even as it is now, and have set the ball rolling, so that if there is any possible way to bring it to absolute perfection the way is clear and a good track laid.

It was late in the season before the non-swarmers were put on the market, and for that reason may be explained the failure of some; but I made one mistake in instructing them to make the change of bees and cases from one hive to the other once in seven days instead of not over five. A natural queen-cell hatches at an average of nine days. Now, if the bees have the swarming fever *very badly*, and start a cell from a larva just hatched from the egg, or one day older, they can seal it and swarm on the fifth or sixth day if they start it the same day they are turned into the other hive. I think this is where the most of the failures lie, and that by a careful working up of these points, and not taking too much for granted (as I am afraid I did last year) the plan will finally be brought out so that it will work with but few exceptions.

Thanking you for your kindness, and hoping to see this plan help all the bee-keeping fraternity—H. P. LANGDON, *East Constable, N.Y., July 20th.*

QUEEN RAISED IN SUPER.

[1512.] Visiting an apiary in Galway some days ago, I was pleased to see a "Wells" hive at work. In giving the history of the stocks put into it, the bee-keeper told me that one of them was headed by a queen raised and brought to maturity under very curious circumstances. To induce the bees to go up in the super, and to give a fresh laying impulse to the queen, a comb containing drone and worker brood in all stages, but no queen-cells, was put up, the adapting-board replaced, and the super put on. This was on the 30th of May. "I," to quote the words of my informant, "on the 16th of June, took off the super, in which there was a great quantity of honey, and what was my surprise when I found two empty queen-cells raised on the comb in a conspicuous part of the brood comb which I had put in. The queen had been brushed off with the bees, not expecting to find one there, but the bees found her on the ground, flying over her with a note peculiar to a swarm.

I caged her there for safety till I had a hive prepared for her reception."

Now, that is not the most wonderful part of it; but, when I tell you that the queen proved herself a fertile one—though, of course, she could not get out of the super—you will, I fear, say there is a mistake somewhere. The time, too—seventeen days—is an anomaly for a queen to be *hatched* and fertilised; but Ligurians are precocious, and these are the offspring of imported queens. I would have dismissed it as impossible but that my informant is one of the most successful as well as the most observant bee-keepers I have met with in Ireland. The apiary is a very old one. Seven hives are kept in a bee-house, which has many inconveniences. Three more are kept in combination hives, and two are in this "Wells." The return of honey from one of the hives was very great indeed. The first super was taken on the 8th of June and replaced by another, and on the first being extracted it was returned, and all were full by the 30th, the whole amounting to 215 pounds. I should mention the whole apiary is run for extracted honey. Frames are all the same size—top bar, 19½; frame, 16¾ × 10½ inches—and, contrary to my expectation, I found all the honey sealed over, and the brood also. Perhaps there is this advantage in a bee-house—that the heat is so uniform as to prevent *centering*. From other stocks 140 to 150 pounds of honey were taken, but these stocks, as well as the big one, have given swarms since. I was delighted with the beauty of the pure Ligurian queens, and remembered some very pretty small bees which seemed to attend her. I was informed where a hive was queenless, or had only a virgin queen, these were to be seen with the drones on the front board. I send you two, though they are quite different from when alive. The abdomen was in two distinct colours, the thorax side a bright orange, almost yellow, the pointed end glossy black. I should be glad to know what part they perform in the community. Next week I shall send you some echoes from some fresh apiaries.—A District Hon. Secretary, *Dalkey, Dublin, July 29th*, 1893.

[It is not unusual for queens to be reared where brood is in supers separated by excluder zinc—in fact, this habit is taken advantage of in queen-rearing. Nor is there anything astonishing in the queen proving herself fertile if she was able to pass the excluder zinc. A great deal of the excluder zinc used is faulty in this respect, and we have ourselves verified that queens pass through it. If bees construct queen-cells for larvæ three days old, which they do if left to themselves, queens may become fertilised and lay in sixteen days from the time they begin rearing cells. To suppose it possible that the queens could have got fertilised without leaving the hives is quite contrary to established facts. The two bees sent arrived perfectly flat, and are not recognisable. From your description we should think they must be robber-bees that had lost their hairs through poking into other hives.—Eds.]

THE LAW RESPECTING BEES.

[1513.] I give below a paragraph cut from this day's *Scottish Leader*, and would be glad to have your opinion of it:—

'Interesting Case about Bees.—Decision has been given in the Perth Sheriff Court in an action in which David Harris, farmer, Aberbothrie, Alyth, sued Robert Elder, farmer, Burnhead, Alyth, for delivery of a swarm of bees belonging to the pursuer which, on 5th June last, swarmed from pursuer's hive, and were followed by him to defender's place, where they alighted and were retained by him. Sheriff Grahame held that bees in a wild state were the property of the person who could get possession of them. The defender *was not entitled to open his door* to give entrance to the pursuer to take possession of the bees. He therefore assoilzied the defender, but allowed no expenses.'

The italic is mine. I understand the swarm took to one of the chimneys of the defender. It seems to me the Sheriff is entirely wrong in classing a swarm followed by its owner as "wild." It is not as if the bees were flying about from place to place claimed by no one, or inhabiting the roof of an old ruin.—W. R. Luca, *July 31st*, 1893.

[According to the law, hived bees are not wild, and a man may have a qualified property in them. According to Blackstone, a swarm which flies out of an owner's hive is his so long as he can keep them in sight and he has power to pursue them, and in this case no one else is entitled to take them. The Sheriff is wrong in calling the bees of a swarm issuing from a hive "wild." If the swarm, however, was lost sight of, as it would be if it entered the chimney, we doubt if the law would compel defender to open his door for the purpose of enabling the pursuer to find his bees.—Eds.]

WEATHER REPORT.

Westbourne, Sussex.

July, 1893.

Rainfall, 4·55 in.	Sunshine 212·10 hrs.
Heaviest fall, ·80 in. on 4th.	Brightest day, 7th, 15 hrs.
Rain fell on 13 days.	Sunless days, 2.
Above average, 1·88.	Above aver. 12·93 hrs.
Max. temp., 80° on 7th.	Mean max., 67·4°.
Min. temp., 49° on 15th.	Mean min., 56°.
Max. barometer, 30·4 on 28th	Mean temp., 61·4°.
	Min. barometer, 29·6 on 12th.

L. B. Birkett.

AN OBSERVATION ON BEES.

"I know why bees never sit down," said Walter.

"Why, my dear?" asked his mother.

"'Cause they has pins in their coat-tails, and they's afraid to."

THE "CANADIAN BEE JOURNAL."

We have just had intimation that a great fire has occurred at the town of Beeton, in Ontario, Canada, and that a number of buildings have been destroyed, amongst others the premises of the Beeton Publishing Company, proprietors of the *Beeton World* newspaper, *Canadian Bee Journal*, and *Canadian Poultry Journal*, the material and machinery connected with which publications are completely destroyed. The total loss to this and other property in Beeton is estimated at 22,700 dollars. There will, of course, be a delay in the publication of the *Canadian Bee Journal*, and the publishers appeal to the kind consideration of their subscribers in the hope that they will excuse its irregular appearance until they can make arrangements for resuming its republication, which they trust will not be more than a week or two.

HONEY SHOW AT CASTLE DOUGLAS.

The annual show of honey at Castle Douglas, N.B.—always a popular one—is fixed for Thursday, the 31st inst., and should prove a big success. In so good a season as this, and in so good a district, honours won on the occasion will be well worth competing for, especially when backed up by substantial prizes for small exhibits.

We observe that all classes are "open to the world," the two most important being—Class 1, for three one-pound jars of extracted honey (other than heather), and Class 2, for six one-pound sections.

In the former the prizes are—first, 2*l.* and silver medal; second, 1*l.* 10*s.* and bronze medal; and third, 1*l.* In Class 2—first, 1*l.*; second, 10*s.*; and third, 5*s.*

With so liberal a prize-list, and the facilities for sending by parcels post, the classes specially referred to will, we trust, be well filled.

Queries and Replies.

[863.] *Bees in Roof.*—Will you kindly advise me how to take the bees and honey from the roof of this house? The house has eight dormer attic windows, in six of which the bees have established themselves for years. The dormers have leaded roofs (over wooden beams), and are underdrawn and plastered, leaving a space between the lath-and-plaster ceiling and the beams, which the bees have utilised. Two years ago a quantity of honey was taken from one of these colonies from *inside* the attic, the lath and plaster being broken, but the mess caused by this proceeding prevents it being repeated; a great quantity of honey and wax was secured, but the bees all died. What would be the best and simplest course to pursue? I may mention that the house is an old one, and the tiles in bad condition, many of them being loose. 1. Would it be best to attempt the business from inside or outside? 2. Are the bees likely to have worked into the false roof on the dormer? 3. Would it be wiser to wait till autumn before beginning?—M. C.

REPLY.—1. We should advise you to begin operations from outside by removing some of the tiles and well smoking the bees. You will then see in what direction the bees have built their combs. 2. It is very likely they have built into the dormer roof, in which case the lead would have to be lifted and the boards removed before you could get at the combs. 3. It would be a good time to do it now, especially as we suppose you would transfer the combs and bees to frame hives, which by feeding you could build up into good colonies before winter. Your sketch has made everything quite clear.

[864.] *Transferring Bees to Frame Hive.*—I had several strong stocks of bees in straw skeps, and, wishing to transfer one of them to bar-frame hive, I proceeded as you have often directed, by cutting a half-inch board to fit the frame hive, with a four-inch hole in centre. I placed it above the bar-frame, and the straw skep on top, at the beginning of June; but, on examining it about a week ago, I found the bees have not established themselves on the frames, although these latter were filled with full sheets of foundation. The sheets are mostly drawn out. Please inform me how I can best establish the bees on frames, whether by driving or letting them remain undisturbed as they are, and giving them time to work down?—JOHN L. ELVIN, *Lincoln, August 3rd.*

REPLY.—Unless the district is a very poor one for honey, there must be something radically wrong either with the queen or the health of the bees to bring about the condition of things described above. In so good a season as this has been, "strong stocks of bees" should have filled the frame hives with combs and the skeps with honey since the beginning of June. We should therefore advise lifting the skeps and making a careful examination of their condition as to bees, brood, and food, before deciding on any future action. If other stocks in your apiary have done well this year, it would appear as if either the bees are diseased or the queens of the skeps referred to are at fault; but, if all have done badly, the want of progress may be attributed to the district, in which case we should leave the bees as they are, and let them work down into frame hives next year, provided the skeps are well protected from the weather during winter.

Echoes from the Hives.

Whitby Heath, Chester.—There is still plenty of white clover in these parts, and the bees are active every day when weather permits, but I do not perceive that the honey gathered does more than supply present wants. Hives are well filled with brood. Swarms very scarce this season. The foreign honey question (1497) might, I think, be profitably discussed in the *B.B.J.* I happen to know how the injury to our interests is done, but I am not able to pro-

pose a remedy. With foreign honey at 4*d.* per pound, or less, and of fair quality, how can we compete?—A. DONBAVAND.

Streatham Hill, London, July 31st.—This year has proved to be very successful here, for the yield has been sixty-six pounds per stock, leaving just sufficient for wintering. This yield was only exceeded in Jubilee year, when it was seventy pounds. Bee-keepers in the neighbourhood have only had about thirty pounds in cases where they had not their stocks very strong in spring to take full advantage of the splendid flow from fruit-blossom. Limes did not yield an ounce.

REVIEW OF CONTINENTAL BEE JOURNALS.

By J. DENNLER.

Le Rucher Belge. Editor, M. Wathelet.—No. 7 contains a description of a cheap extractor. The following are the details of construction. The extractor is made from a wine barrel. These barrels are generally 27½ inches high (70 centimetres) by 24 inches (61 cm.) in diameter, and cost from four to five francs a-piece. One of the ends is knocked out, and the edges sawn down to the groove. Thus we have the cylinder for the extractor. The interior must be thoroughly cleaned and scraped, and washed with hot water in which some potash has been dissolved, and it is then cleansed in running water to get rid of all the potash. Near the bottom a hole is bored by which the honey can be drawn off, and this hole is fitted with a cork. On the bottom of the tub nail a piece of wood four inches square, in which a hole has been bored for the purpose of receiving the central spindle of the cage.

The cage is made in the following manner:—The spindle is made of a piece of oak 2⅜ inches square, and 32 inches long. Both ends are rounded, the lower end to fit the hole bored in the piece of wood at the bottom of the tub, and the upper end to pass through a hole in a cross-piece that must be fixed by means of screws inside the upper part of the tub, for the purpose of keeping the spindle vertical, and as a guide. The hole in this cross-piece must exactly correspond with the one below in which the spindle works.

The spindle has holes bored half-way through on the four sides to receive four tranverse pieces of oak, which will form a cross with ends of equal length. The holes must be bored at four inches from the bottom and then nineteen inches higher up.

The ends of cross-pieces have to be let into two frames of wood, nineteen inches by sixteen and a quarter inches. The length of cross-pieces, with the thickness of frames added, must not exceed twenty-two and three-quarter inches. Tinned wire netting, such as is used for bird-cages, is now stretched round and fastened to the frames. On the lower end inside of the cage supports are nailed, so as to carry the frames of comb, and allow them to rest against the wire netting. The centrifugal force drives the combs against the netting, and keeps them even during the operation. A crank handle is then fixed to the upper end of spindle. To arrange a barrel in this way costs about seven francs; we therefore thus have a cheap extractor suited to all sizes of frames.

Bulletin Horticole, Agricole, et Apicole de Liege. Editor, Jules Belot.—In No. 13 the following good advice to bee-keepers is given:—"The absence of rain in the spring has enabled us to make some observations with regard to pastures. We noticed that meadows which contained *legumenosæ*, such as clovers, &c., have suffered less than others, because the surface of the ground was entirely covered when rain failed. In places where there was no clover or lucerne, the ground became hardened and cracked, and the grasses dried up to the roots, and only yielded a scanty cutting in specially favoured spots. We therefore advise farmers (all of whom should be bee-keepers) to sow in their meadows, at the proper time, white clover, which is very hardy and succeeds nearly everywhere. The bees will then have abundance of forage, and the food for cattle will be of the best quality."

Vereins-Blatt des Rheinisch-Westfälischen Vereins für Bienen und Seidenzucht. Editor, W. Lückerath.—A very curious observation has been made and verified, in No. 6, that certain flowers are frequented by bees in one district and not in another. A bee-keeper has observed that a species of hyacinth very common in the vineyards of the Rhine Province, the *Muscari racemosum*, is visited in the spring by bees two kilometres from his apiary, and is not noticed in places nearer. The soil in the neighbourhood of his apiary is alluvial and very fertile, whereas that where the hyacinth is visited by the bees is calcareous.

In the mountains and valleys of the Eifel the month of March was really like spring. The catkins of the willow furnished the bees with abundance of pollen, besides a quantity of honey. One bee-keeper on the 4th of April extracted from his eighteen hives 100 pounds of honey. Willow honey is very light-coloured, and granulates rapidly, perfectly white.

Bienenvater aus Böhmen. Editor, Hans Schusser. Nineteenth year.—Foul brood does not proceed from chilled brood. The bacteriologist, Mackenzie, of Canada, inoculated a cell of chilled brood with *Bacillus alvei.* The comb containing this brood was kept some months in a damp place, when the brood continued to putrefy: but *Bacillus alvei* did not spread, but remained in the cell inoculated by Mr. Mackenzie. Comb foundation may propagate foul brood if the wax from which it is made has not been subjected for at least three hours to a temperature of 90° C. (194° Fahr.). A temperature of only 50° C. (122° Fahr.) is not sufficient to destroy *Bacillus alvei.*

L'Abeille de Francomie. Editor, Hergenröther. Thirty-fifth year.—No. 7 gives a report

of the honey harvest during the month of June, which has been very abundant in Lower Franconia. Supers extracted on the Wednesday had to be extracted again on the Saturday. Owing to the great heat that prevailed the honey was very thick, and was extracted with difficulty. It was therefore unnecessary under such conditions to wait until it was sealed over. It is principally clover that has yielded honey so abundantly. Honey-dew was also very plentiful during the hot days. In other districts of Bavaria and Würtemberg bee-keepers complain of the poor harvest. Swarms were very scarce nearly everywhere.

Deutsche Illustrierte Bienenzeitung. Editor, C. F. H. Gravenhorst.—The July number contains the biographies and portraits of two distinguished bee-keepers, Frederick Arnold, merchant at Greiz, born in 1818, and Ernest Arnold, his son, born in 1841, successor to his father in the business. Both had fine apiaries. Their trade mark was a bee, and their telegraphic address was "Bee." At his death Ernest Arnold bequeathed to his native town nearly two and a half millions of marks (125,000*l.*) for useful endowments.

(To be continued.)

Bee Shows to Come.

August 12th.—Wotton-u-E. District Annual Show of Honey and Cottagers' Flower Show. £20 in prizes. G. Gunston, Hon. Secretary, Bradley Green, Wotton-under-Edge.

August 15th and 16th.—South of Scotland B.K.A. at Dumfries. Wm. Wilson, Secretary, Acrehead House, Dumfries.

August 16th.—Kent B. K. A., in connexion with the Sevenoaks Horticultural Society's Show, in Knole Park, Sevenoaks. Entries close August 12th. Hon. Secretary, Jesse Garratt, Meopham, Kent.

August 19th.—Bee and honey show at Mobberley, Cheshire (under the rules of the Lancashire and Cheshire B.K.A.), and in connexion with the Mobberley Horticultural Society.

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries close August 15th. For schedules apply John Latham, Secretary, North Albion Street, Fleetwood, Lancashire.

August 31st.—Castle Douglas Horticultural and Honey Show. Schedules and all information from Wm. Blackwood, Secretary, Castle Douglas, N.B. Entries close August 28th.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main St., Alexandria, N.B.

September 5th and 6th. — Warwickshire B.K.A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec., Knowle, Warwickshire. Entries close August 26th.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules in due course from John Wishart, Secretary S. B. K. A., Melrose.

Sept. 19th.—Honey Show, &c., in connexion with the North Lonsdale Agricultural Society at Ulverston, under the Lancashire and Cheshire B. K. A. rules. Prizes value 6*l.* 6*s.* 6*d.* Entries close September 7th. Schedules from Nelson Wearing, Hon. Sec., Ellers, Ulverston.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ENTHUSIASTIC BEE-MAN.—The book you require is *British Bees* by W. E. Shuckard, published by Lovell, Reeve, & Co., London, at 10*s.* 6*d.*

A. J. CONSTABLE.—The recipe you ask for would occupy too much space for us to publish, especially as it would have little interest to our readers, as the method has been superseded by more certain and simpler methods. You will find what you require in *B. J.* for 1884, page 262, or you can have the *Foul Brood* pamphlet, published by B. B. K. A., for 6½*d.*, post free from this office.

F. COOK.—The comb sent contains foul brood and it not fit to give to driven bees. In any case you should never use such old combs. As there are only two cells affected in the combs sent the hive could be cured with timely attention.

M. G. (Dumfriesshire).—Both samples of honey are good; but No. 1, although the brighter of the two, is not of such good consistency. Either would do for competition. No. 2 is inclined to granulate, and should be kept in a warm place if wanted for show. We thank you for your appreciative remarks respecting *B. B. J.*, and are pleased you have derived benefit from it.

H. S. T.—*Honey from Willows.*—Bees do gather honey from willows; but its chief value to bees in this country is as a pollen-producer in early spring. The honey from it is perfectly white, and granulates rapidly.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE.—Superior Queens, Stocks, and Swarms, English and Carniolan. Address Rev. C. BREEETON Pulborough, Sussex. f. n.

GUARANTEED Healthy Pure Natives.—Fine Young Fertile Queens, 3s. 6d. each; 3-Frame Nuclei, 10s. 6d.; 6-Frame Stocks, 17s. 6d.; 8-Frame ditto, £1, packing included. CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. B 29

HONEY Extractor, suitable for a large apiary, takes six frames, cost £5, can be had for £3. *Never used.* GEO. NEIGHBOUR & SONS, 127 High Holborn, London, W.C. 157

HONEY JARS.—Half-pound White Enamel Stone Jars, with Caps. Sample, 4½d. Under cost, to clear. S. SIMMINS, Seaford, Sussex. B 26

FOR SALE.—Splendid stocks of Bees, with or without Hives. Address F. JONES. 4 Woodfield Terrace, Radyr, near Cardiff. B 32

FOR SALE.—Good Stock in Standard Double-walled Hive, with 2 Shallow Lifts and 22 Shallow Combs, 30s. 2 dozen 1-lb. Glass Bottles, 1s. 6d. 1 dozen Screw-cap Show Bottles, 1s. 6d. Also well-made Wells Hive, with perforated Dummy, Lift, Section Crate, 4 feet of Excluder Zinc, and 2 Ordinary Dummies, 25s. Owner going abroad. Address B. OWTRAM, Rylston, Beckenham. B 33

FOR SALE.—Four dozen Sections '93 Honey. What offers? Address LINSTEAD, Garboldisham, Thetford. B 34

HONEY, Extracted, in Cans. Splendid Clover, 7d; Sample, 3d. Comb Honey, 9d. Address G. R. DOWNER, Drayton Manor, Chichester. B 35

HEALTHY DRIVEN BEES at 1s. 6d. per lb., and their Queen. Packing-box returnable, Young Queens at 2s. 6d. each. Address E. GARNER, Broom, near Biggleswade, Beds. B 36

CONDEMNED BEES WANTED. Must be cheap. Address WALLACE, Hope Bank Cottage, Cheadle, Hulme, Cheshire. B 37

SCREW-CAP HONEY BOTTLES.—Fresh supply ready. 10 gross, 13s. per gross; 5 gross, 13s. 9d. per gross; 1 gross, 14s. 6d. Bags, 1s. per gross extra. Address GARNETT, Steade Road, Sheffield. 160

WANTED.—New Sections Honeycomb, first quality: also Extracted in bulk. Packages sent. Prompt Cash settlement. Mr. HURST, Bexhill, Sussex. 118

BEE TENT on Hire. For terms apply to G. GUNSTON, Bradley Green, Wotton-under-Edge. 135

CARBOLINE POMADE.—Kills Bee-stings like Magic. Prevents getting Stung, Robbing, &c. In 1s. bottles, post free. Samples of Bee-smoke Cartridges, 3d. Address T. HOLLIDAY, Asthury, Congleton. 151

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CASTLE DOUGLAS HORTICULTURAL & HONEY SHOW.

THURSDAY, AUGUST 31st, 1893.

Three 1-lb. Jars of Extracted Honey, other than Heather. Jars to be Round Pattern with Screw Tops. 1st Prize, 40*s.* and Silver Medal; 2nd, 30*s.* and Bronze Medal; 3rd, 20*s.* Entrance Money, 3*s.*

Six 1-lb. Sections of Honey-comb, $4\frac{1}{4} \times 4\frac{1}{4} \times 2$ inches, to be shown in tin Sections, holders blue or slate-colour. 1st Prize, 20*s.*; 2nd, 10*s.*; 3rd, 5*s.* Entrance Money, 2*s.*

Schedules and all Information from the Secretary,

Wm. BLACKWOOD, *Castle Douglas.* 156

British Bee Journal and Bee-keepers' Record.

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8, 9. (Medium and Large sizes, 1/- per Cwt. extra.)				
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NAPHTHALINE, for using in hives as a preventive of infection, in boxes, 1*s.* post free.

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Instructions for use sent with each packet.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 582. Vol. XXI. N.S. 190.] AUGUST 17, 1893. [*Published Weekly*

Editorial, Notices, &c.

BERKSHIRE BEE-KEEPERS' ASSOCIATION.

The Windsor district of this Association held their show of bees, hives, honey, and appliances, in conjunction with the Prince Consort's Association, in the Home Park, Windsor, on Wednesday, July 26th. Although the season has been exceptionally free from rain, a good exhibition of honey (nearly 600 lbs.) was staged, and most of it sold readily. The colour of honey from the Windsor district was unusually dark, but of exceptional quality, whilst samples from the western part of the county were pale (gathered from sainfoin and white clover) but first-class. Classes 17 and 18 were for the best bottle and section of honey, the exhibits being sold for the benefit of our royal President's (H.R.H. Princess Christian's) Nursing Fund. There was also present the new enterprise of this county Association, the bee-van, which had just completed one month's tour amongst the rural population where railways do not reach, giving practical instruction (illustrated at night with lantern slides) from the van. We believe the van tour has been a great success. Mr. W. S. Darby, the energetic local secretary, together with the Show Committee, are to be congratulated in carrying out their duties well. The Rev. R. Errington, Clewer, and the Rev. S. R. Wilkinson, of Great Marlow, were the judges. The prize list was as follows:—

Open Classes.

Best collection of appliances.—1st prize, T. Flood, Reading; 2nd, Mr. Stoneham, Windsor.

Best hive for general use.—1st, C. Redshaw, South Wigston, Leicester.

Best hive for general use, price 12*s.* 6*d.*—1st, C. Redshaw; 2nd, T. Flood.

Best hive (Wells pattern).—1st, C. Redshaw.

Best rapid bee-feeder.—1st, C. Redshaw.

Best observatory hive.—No award.

Best exhibit of honey.—1st, A. D. Woodley, Caversham.

Members only.

Best twenty-one sections.—1st, A. D. Woodley; 2nd, W. S. Darby, Clewer.

Best twenty-one 1-lb. sections.—1st, A. D. Woodley.

Best twelve 1-lb. sections of honey.—1st, A. D. Woodley; 2nd, G. Head, Winkfield.

Best twelve 1-lb. jars of extracted honey.—1st, A. H. Miller, Egham.

Best super of honey (not sectional).—1st, G Head; 2nd, J. Taylor, Windsor.

Best beeswax.—1st, H. Attfield, Ascot.

Windsor District only.

Best twelve 1-lb. sections.—1st, G. Sawyer, Great Marlow; 2nd, A. Head.

Best six 1-lb. jars of extracted honey.—1st, G. Sawyer; 2nd, J. Knight, Clewer.

Best frame hive, stocked with bees.—1st, G. Head.

Special Open Classes.

Best 1-lb. section of honey.—1st, S. W. Filtness, Swindon.

Best 1-lb. jar of extracted honey.—1st, A. H. Miller.

BEES AND HONEY AT THE YORKSHIRE AGRICULTURAL SHOW.

AUGUST 2, 3, AND 4.

No show in the previous history of the Society has been more successful than the present one in regard to exhibits in the bee department. The current seasou has proved an unusually favourable one so far as the North of England is concerned, and this fact no doubt played a considerable part in the success of the exhibits. A large share of the credit must, however, be given to the Yorkshire Bee-keepers' Association, which has been very active in its operations in the past few years. At intervals lectures on bee-keeping, and manipulations of the modern bar-frame hive, were given by Mr. R. A. H. Grimshaw, hon. secretary of the Yorkshire Bee-keepers' Association, who had the assistance of Mr. William Dixon as an expert in bee-handling.

The attendance at the lectures was all that could be desired. Crowded audiences of intelligent listeners eager to hear about bees inspired the lecturer to prolong his remarks beyond the usual time, and also to continue giving instruction between one address and another to a never-ending string of inquirers and doubting skep-keepers. Quite the most pleasing feature of the whole show, from a bee-keeping standpoint, was a glass extracting-house erected by

the Society for the Rev. R. M. Lamb, who, with the assistance of Mr. A. C. Jemeison, extracted honey, bottled it, labelled it, and, what is more, *sold it* by hundredweights to an admiring crowd! Unbelieving Thomas was represented there also, for many a time could be heard the remark, "Let's goa an' see 'em makkin t'unny." The extracting-house was artistically decorated with curtains "of most æsthetic hue," and the eyes of Mr. Broughton Carr—the arch-apostle of shallow frames—would have seen such a sight as your reporter humbly thinks they cannot have yet beheld. Score on score of shallow frames, every one filled with the whitest and thinnest foundation possible to be obtained, every one drawn out to perfection, filled cram full with lemon-golden honey with a capping as level as a board, so that with common carving knives the slice came off with scarcely a fault—immaculate cleanliness and perfection pervaded the whole process. Altogether the show of honey appliances and the educational machinery was such as to gladden the heart.

The following is the list of prizes awarded:—

Best hive for general purposes.—1st prize, W. Dixon, Beckett Street, Leeds; 2nd, A. C. Jemeison, Dringhouses, York.

Best hive for general purposes, price not to exceed 10*s*.—1st, A. C. Jemeison; 2nd, W. Dixon.

Honey extractor for bar-frames.—1st, A. C. Jemeison; 2nd, W. Dixon.

Honey extractor for sections.—1st, W. Dixon; 2nd, A. C. Jemeison.

Useful inventions.—1st, A. C. Jemeison; 2nd, W. Dixon.

Observatory hive.—W. Dixon.

Comb honey in sections, not over 18 lbs.—1st, Rev. R. M. Lamb, Burton Pidsea, Hull; 2nd, Miss S. J. Cooper, St. Nicholas Square, Leicester.

Honey in sections, not over 12 lbs.—1st, W. Smith, Preston, Hull; 2nd, Lady Hawke, Wighill Park, Tadcaster.

Best 12 lbs. extracted honey in glass jars.—1st, H. Lawrence, East Keswick, Leeds; 2nd, W. Bowes, Elmhurst, Darlington.

Granulated honey.—1st, W. Dixon; 2nd, W. Chester, Goole.—*Communicated.*

STAFFORDSHIRE B. K. ASSOCIATION.

The annual exhibition of this Association was held in connexion with that of the Staffordshire Agricultural Society in the picturesque grounds of its popular President, Mr. S. Lipscomb Seckham, on August 1st and 2nd, and proved a complete success.

The entries were numerous and the previous best on record for the Association, viz., ninety in 1887 was easily beaten by the 137 of this year; nearly 2000 pounds of honey were staged and the competition was very keen.

During the afternoon an examination for third-class certificates was held, Mr. Palmer acting as examiner.

The judges, the Rev. G. R. Bailey and Mr. J. Palmer, awarded the prizes as follows:—

Honey.

Honey in any form, not exceeding 150 lbs.: H. Wood, Paradise, Lichfield, 1; S. B. Fox, Maer, Newcastle, 2; Elihu Clowes, Blackbrook, Newcastle, 3; J. R. Critchlow, Newcastle, 4; W. Williams, Lichfield, 5; v.h.c., A. Simpson, Lichfield.

Twelve 1-lb. sections: H. Wood, 1; A. Simpson, 2; J. R. Critchlow, 3; E. Clowes, 4; h.c., W. Williams.

Run or extracted, in jars: J. H. Collier, Stafford, 1; J. Pellington, Stafford, 2; Mrs. R. P. Cooper, Lichfield, 3; H. Parsons, Lichfield 4; v.h.c., J. Lindop, Madeley; h.c., S. B. Fox, J. R. Critchlow, A. Simpson, and T. Cooper, Seabridge; c., W. Williams, H. E. Twentyman, Wolverhampton, and J. N. Beddows, Bloxwich.

Six 1-lb. sections: A. Simpson, 1; H. Wood, 2; E. Clowes, 3; v.h.c., H. Parsons, Lichfield.

Design in honey-comb: J. R. Critchlow, 1; H. Wood, 2.

Section and jar (one each): H. Wood, 1; Miss M. J. Fox, Maer, 2; A. Simpson, 3; v.h.c., Mrs. R. P. Cooper; h.c., E. E. Crisp.

Super of comb honey: Miss H. M. Twentyman, Castlecroft, 1; H. Parsons, 2.

Granulated honey: H. Wood, 2.

One-pound jars (dark) extracted: H. Wood, 1; Miss F. E. Smith, Lichfield, 2; W. Williams, 3.

Open Classes.

Twelve 1-lb. sections: H. Wood, 1; E. Clowes, 2.

Twelve 1-lb. jars extracted: S. Cartwright, Shrewsbury 1; J. H. Collier 2; v.h.c., E. Clowes, and A. Hamar, Carmarthen; h.c., J. H. Wootton, Hereford, and F. Harper, Uttoxeter.

Labourers' Classes.

Comb honey: R. Middleton, Stafford, 1; T. Bailey, Whitmore, 2.

Extracted: R. Middleton, 1; T. Bailey, 2.

Beeswax—E. Clowes, 1; J. R. Critchlow, 2; J. H. Collier, 3.

Bees—best observatory hive: A. W. Rollins, Stourbridge, 1; E. Clowes, 2; H. Wood, 3.

Collection of hives and appliances: W. P. Meadows, Syston, Leicester, 1; T. Walmesley, jun., Lichfield, 2.

Best bees in straw skep: J. Beech, Burntwood, 1; H. Parsons, 2.

GLAMORGANSHIRE BEE-KEEPERS' ASSOCIATION.

The above Association held their annual show of honey in connexion with the Glamorganshire Agriculture Society at Bridgend on July 26th and 27th.

The bee-tent of the B. B. K. A. was a great attraction. Mr. Gay, county expert, manipulated and gave short addresses, assisted by Mr.

E. J. Gibbins, Neath, and Mr. E. Thornton, Hon. Secretary.

As a result of the able and combined efforts of the lecturers the Hon. Secretary enrolled several members, and the following week saved several hives that would have been sulphured but for the bee-tent manipulations and the information given.

Mr. Walter Davies gained the silver medal (B. B. K. A.) for sections, and Mr. E. Thornton, bronze medal (B. B. K. A.) for extracted honey. —E. THORNTON, *Bridgend, Glam.*

HUNTS BEE-KEEPERS' ASSOCIATION.

The annual honey show of the above Association was held in connexion with that of the Hunts Agricultural Society at Hinchingbrooke Park, Huntingdon, on July 26th, and the exhibits made a very creditable display for the season. In some of the classes the competition was keen. Mr. J. H. Howard, of Holme, was the judge and made the following awards:—

Bees, Honey, and Wax.

Best English bees in observatory hive.—Equal 1sts, W. H. Woods, Hemingford, and E. Allen, Godmanchester.

Best twelve 1-lb. sections.—1st, R. Brown, Somersham; 2nd, W. H. Woods; 3rd, E. Allen.

Best twelve 1-lb. bottles of run honey.—1st, R. Brown; 2nd, Mrs. Allpress, Broughton; 3rd, E. Allen.

Open Classes.

Best exhibit of comb honey (not sectional).—1st, Mrs. Allpress; 2nd, W. H. Woods; 3rd, Mrs. Shelton, Stukeley.

Best sample of beeswax.—1st, H. J. Bull, Kimbolton; 2nd, E. Allen; 3rd, Z. Hobbs, Stukeley.

Cottagers only.

Best twelve 1-lb. sections.—1st, H. J. Bull; 2nd, W. Ellis, Somersham; 3rd, Z. Hobbs.

Best twelve 1-lb. bottles of run honey.—1st, W. Ellis.

NORTHANTS BEE-KEEPERS' ASSOCIATION.

The annual show of this Association took place, as usual, in connexion with the horticultural show in Delapre Park on August 7th and 8th, in fine weather. The central attraction was the exhibit of 147 sections sent in response to Mr. Hefford's appeal for aid for the widow and family of the late Mr. H. Ringrose. Of the sections staged, some were evidently sent for pure charity's sake. The remainder formed, for this season, a wonderful good collection, and the judges, Rev. R. A. White and Mr. J. Shaw, awarded the prizes as follows:—1st, W. H. Woods, Hemingford Greys, St. Ives; 2nd, W. A. Palmer, Brampton Station, Northants; 3rd, C. F. Cave, Billing Road, Northampton; 4th, A. L. Y. Morley, Great Brington, Northants; 5th, T. M. Jameson, Moulton Grange, Northants; commended, Jno. Cox and Jas. Cooper, Badby.

The ordinary classes were well filled.

GENERAL PRIZE LIST.

Best twelve 1-lb. sections.—1st, C. Cox, Brampton; 2nd, Jas. Adams, West Haddon; 3rd, W. Baldwin, Chapel Brampton; 4th, G. Brown, Northampton.

Best twelve 1-lb. jars of extracted honey.—1st, O. Orland, Floor, Weedon; 2nd, E. Ball, Northampton; 3rd, C. F. Cave; 4th, W. Fustain, Farthinghoe Station.

Best exhibit of super honey, not exceeding forty-eight pounds.—Equal 1st, H. Collins, Berry Wood, and Mr. Baldwin.

Best beeswax.—1st, C. Cox; 2nd, Jas. Adams 3rd, H. Collins; 4th, Thomas Salmonds' Brackley.

Open only to Non-prize-winners at previous Shows.

Best six sections. — 1st, John Spencer, Northampton; 2nd, O. Orland; 3rd, G. Brown.

Best six 1-lb. jars extracted honey.—1st, O. Orland; 2nd, H. Bailey, Millway, Duston; 3rd, E. Ball.

Best super of comb honey.—1st, W. A. Palmer; 2nd, Miss F. Williams, Overston; 3rd, Mrs. Boughton, Chapel Brampton.

The bee-tent held good audiences, which were interested in the lectures of Mr. T. E. Adams, of Culworth.—*Communicated.*

SCOTTISH BEE-KEEPERS' ASSOCIATION.

THE AUTUMN SHOWS.

The prize lists for the autumn exhibitions of the Association, which are to be held on September 7th in St. Andrew's Hall, Glasgow, and on September 14th and 15th in the Waverley Market, Edinburgh, are now ready, and will be forwarded to all applicants. I would, on behalf of my Committee, be glad of suggestions from members of the Association as to the classification, and would be pleased to have early intimation of special prizes.—JOHN WISHART, *Assistant Sec., Market Place, Melrose.*

JOHN HUCKLE TESTIMONIAL FUND.

The following sums have been received or promised:—

	£	s.	d.
Amount already acknowledged ...	41	5	6
Wm. Carr (Newton Heath)	0	10	6
J. Willard	0	5	0

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of July, 1893, was 2514*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

"THE BEE-KEEPERS' GUIDE" (AMERICAN).

We are sorry to find that the *Bee-keepers' Guide* has been obliged to suspend publication, and has not appeared since April last. There are every year in America a number of new bee-papers started, and about as many become extinct, so that we have for a long time ceased to notice them. The case is, however, different with the *Bee-keepers' Guide*, which has been published now for sixteen years. We suppose, even with a bee-supply business to back it up, Mr. Hill found it a hard job to make it pay its way. Although we read year after year of new journals being started and coming to grief, it is astonishing to us that there are still found persons simple enough to think that they have merely to start a bee-paper to make it a success, and yet simpler persons to believe them. It will be a matter for regret among many bee-keepers that the *Bee-keepers' Guide* has ceased to exist, as it was one of the leading bee-papers in America. The others being the *American Bee Journal* (established in 1861); *Gleanings* (established in 1873); and the *Bee-keeper's Review* (established in 1888).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AN APIARY OF THIRTY-TWO COLONIES ON A ROOF IN THE CENTRE OF THE CITY OF PHILADELPHIA, U.S.A.

[1514.] Seeing an account in the *Philadelphia Ledger* of a swarm of bees having settled on a street lamp opposite the office of that paper, Chestnut Street, I took the first opportunity of ascertaining particulars on the spot. I was told by a policeman, an eye-witness, that they came from the roof of one of the high buildings in Sixth Street, that they first settled on one of the trees opposite "Independence Hall," and then on the lamp above mentioned. This being in the centre of the busiest part of the city of Philadelphia (which has a population of upwards of one million inhabitants), at the time of day when the streets were crowded with tramcars, horses, and vehicles of all descriptions, and the pavements thronged with people passing, you will understand the consternation such a sight would cause, and the increased wonder and amazement when a young gentleman, Mr. Roland S. Lindsay, whose bees they were, in the quietest manner possible took them out one handful after another, and put them into a box he obtained for that purpose, apparently without any of the horses or lookers-on being stung. Having satisfied himself that he had captured the queen, he was content to leave the few remaining bees, knowing that as soon as the queen was missed they would return to the old colony from whence they came.

Upon Dr. Townsend telling Mr. R. S. Lindsay that I was desirous of seeing his apiary, he very kindly wrote me and invited me to do so, and on the 3rd of July I went.

Mr. Roland S. Lindsay is a medical student at the University for Pennsylvania in this town, and has his apiary on the roof of a five-story building, his father's business premises, being No. 25 South Sixth Street, Philadelphia.

Having provided ourselves with bee-veils, we went up on to the roof of the building, which is nearly flat, having only sufficient slope just to carry off the water; it is covered with thick sheets of tin soldered together and painted. Most of the roofs are similarly covered.

The hives are in rows of four, placed back to back, with a passage 1 ft. 8 ins. between the rows, the entrances facing alleys 6 ft. wide. Between each group of four hives run passages 2 ft. wide, and it is from these and the 1 ft. 8 in. passages that all manipulations are carried out.

The following are the particulars and history of Mr. Lindsay's apiary and system of management, which I give as nearly as possible in his own words:—

"I commenced bee-keeping a few years ago by the purchase of a three-framed nucleus, which I took to my father's residence. The family objected to my pets, and I was forced to take them to the very heart of the city and place them in their present position. That year they increased to three stocks, and from the old one I took seventy-two pounds of comb honey, the largest quantity I have ever taken from one colony in the city, my average takings being about fifty pounds. Next spring I purchased three more stocks in the country, which were brought into the city. Finding some fertile workers in one of these, and a drone-laying queen in another, it gave me a good chance for experimentation.

"The fertile workers I got rid of as follows: I selected a very strong colony, having a prolific queen, upon which I put the hive containing

the fertile workers, both having first been smoked, and given time to gorge themselves with honey. Upon examination some days after, I found the queen laying eggs in the hive in which the fertile workers had been. I then removed the upper hive with the queen to its original stand, and gave another queen to the hive left, and both went on satisfactorily without any more trouble from fertile workers.

"I use the Root dovetailed hive, which holds eight Langstroth-sized frames and a dummy. The frames are self-spacing, and have thick tops to prevent burr combs. Prevention of burr combs is quite a feature; but these burrs have their value, I think they are useful in getting the bees into the supers, and also in wintering. Still, I prefer to have no burr combs, as the bees, with proper management, can be crowded into the supers.

"In the spring I wait for a very warm day, when the bees are flying but not trying to rob. Then I open quite a number of hives, taking off all covering but the oilcloth, which I always use directly over the frames. The heat of the sun will soon soften the propolis and wax at the top of the frames. Then, with the smoker in my left hand, and a large three-inch paper-hanger's knife in the right, I smoke the bees down, take off the oilcloth, and, with a few quick shoves, clear everything from off the tops of the frames.

"It seems hardly necessary to say that in the city we do not get any honey from fruit-blossom. During June the bees just manage to get enough to keep them, with the occasional help of a little feeding. By the second week in June I endeavour to have the eight frames filled with brood, and I *prepare* for the honey-flow, which commences the first or second week in July, and ends with the first frosts in October.

"To get the best results, and make the most of the honey-flow, we must have good queens. My way of getting the honey is this: In the brood chamber I leave six frames of brood, filling up with two dummy frames; I mash the capping of the honey left in the brood chamber with a fork, and put a sheet of queen-excluder zinc on the top of the hive, and another hive-body on this, containing the two frames of brood removed from the chamber below, four frames of comb or foundation, and two dummy frames. The honey will soon be removed from the lower hive, and carried up to the super, when the queen will lay eggs in the cells as they are emptied, thus giving six solid frames of brood, which will nearly all be ready for the honey-flow. The honey stored above may be extracted or saved, as I have to do, to return to the bees in the spring before there is any amount of honey collected.

"It has been my study, since I began keeping bees, to do all in my power to have every stock strong and ready for the honey-flow when it comes. I have tried almost all the varieties of bees, and am satisfied that the Italians cannot be surpassed."

Mr. Lindsay was raising queens, in which he takes great interest. Several of these I saw in nuclei, where they had just begun to lay, and they were splendid specimens. I was particularly struck with the colour and beauty of the bees generally. Some fourteen or fifteen hives were opened; little, and in some cases no smoke was used; the bees were as quiet as flies, not one during the whole time attempted to sting, the bees and the queen remaining quietly on the combs; very few were attempting to fly. In one or two cases Mr. Lindsay moved his hand quite quickly over the frames, to show how gentle they were, and not a bee attempted to fly.

I have been twice to this apiary, and have been much pleased with all I have seen, particularly with the queen-raising upon Doolittle's plan, which is most interesting. Mr. Lindsay has kindly promised to make two nuclei for me to take back with me on my return to England, which I propose to do early in October.

I have had a kind invitation to pay Mr. McKnight a visit at Owen's Sound, Canada, and I hope to go there on Tuesday next. Many of your readers will recollect seeing Mr. McKnight at the Colonial Exhibition, and the splendid honey he exhibited there. He has some 200 hives in his apiary, and I shall hope to send you an account of it at some future time.—JOHN M. HOOKER, *Philadelphia, U.S.A. July 20th*, 1893.

NOTES BY THE WAY.

[1515.] We are enjoying grand summer weather in this part now. The wheat harvest is nearly all garnered or put into the barns, the ricks are few and small owing to the light crop, the spring or summer corn (barley and oats) is lighter than the wheat crop. The bees are busy gleaning—in fact, at some hives are "laying out," showing that honey is being found somewhere, though there is no forage except a sprinkling of white clover and charlock.

The clover crop for another season is not very promising. The seed that was sown in the spring has only grown since the long drought broke up, and is consequently very weak and spindling. In permanent pastures the clover plant soon recovers after a rain; but in arable districts, where a rotation of crops are grown and clover lay (or ley) is ploughed in for a corn crop, after one crop of hay has been cut and the aftermath fed off by sheep, the plant has to establish itself amongst the spring-sown corn this summer for the hay crop next year, so that our source of clover honey is ever varying—sometimes good, at other times poor.

I can fully endorse what Mr. "Useful Hints" says *re* super-clearers. I, too, have had four kinds in use simultaneously, and, as in a previous "note," I say to those who intend to invest in a clearer, buy a spring self-acting non-returnable clearer, and if you have some of the old style, convert them into a positive success by buying a spring escape, and fix same in lieu of the cones,

whether vertical or horizontal. Early in the season the cones act very well; but later on, towards the end of our harvest, the cone escapes are failures, more or less, as clearers. I give a case of simple clearing at my out-apiary. Early in the season I went to put on a few clearers, and found more crates ready than I expected, so I simply cut some sheets of brown paper the size of the crates, and cut three holes to correspond to the three rows of sections, and placed these paper clearers under the full crates about 7.30 p.m., and when I visited the apiary next morning at 6.30 a.m., the crates were practically cleared, as also were those with cone escapes, but with spriug escapes every bee was out of the crate of sections. I have ordered enough "B-Off's," as Mr. Meadows terms his spring escapes, and I suppose the name was suggested to him by his manner of using them. He (Mr. M.) places his board with the escape flat on the top of the crate of sections, and the bees clear out and off to the entrance of the hive, either through the cone at end of gable of hive, or from the window of the honey-room.

Now, I have always used the clearer-cone or spring pattern as a conduct-pipe to guide the bees into the line *viâ* escape. Mine is practically the night-time clearer, and Mr. Meadows' the day-time clearer; and I fancy, taking a broad view of the matter, that my night-time clearing does not interfere with the work of the colony so much as the day-time system.

The wasps are still with us, notwithstanding that every man's hand is against them, the *English Mechanic* going so far as to suggest a crusade for their extermination. Well, I think I have done my share of the work already, though I own I am still ready for the fray, and next evening will probably find me wending my way with the elements of wasp-destruction. I have already destroyed and helped to destroy over forty nests, besides having twenty to thirty bottle-traps about the apiary, supplemented with two or three inverted bell-glasses with cone entrances through a two-inch hole in board cover, each "catch-'em-alive-o!" baited with some odds and ends of unfinished candy cakes left by the bees last spring—yet after this wholesale destruction, still they come!

We have had our Honey Show at Newbury, and a very creditable affair it was. The honey staged was of very excellent quality, the weather splendid, the attractions great, including "Blondin, the hero of Niagara," the attendance grand for a town like Newbury—some 7000 passed the gates; our Show Committee worked with a will, the genial Hon. Sec., Mr. Hawkes, was indefatigable in his labour to ensure its success, and a success it proved. The judges for honey were the Rev. W. E. Burkitt, Buttermere, Wilts, and Rev. J. Bacon, Coldash, Newbury.

Large Exhibits.—I would beg to offer a few remarks to committees on this point, and preface same by saying that, with my large apiaries, I am able to stage any amount in reason, therefore I hope I shall not be accused of axe-grinding. The few schedules state the quantity, the many schedules leave the quantity to the exhibitors' for example, report of Scotch show. I would suggest that the quantity be stated in all schedules, also the space on which the exhibit is to be staged. Now, if the quantity is kept within reasonable bounds, the class is thereby thrown open to owners of comparatively small apiaries, the exhibits are varied, and the number of entries consideraby increased. This is desirable from every point of view, and must commend itself to the consideration of every one who has the advancement of bee-keeping at heart.

I would like to say a few words on the *wider metal ends*, but I feel I have exceeded already the limit of space, therefore defer till another time any comment on the subject.

In closing I would remind bee-keepers ann the friends of bee-keeping that the 'Johd Huckle Testimonial Fund' *is not closed yet*, and I trust to see many names that have been familiar to us for many years in the pages of *Bee Journal* added to the list of subscribers ere it closes. Perhaps it is only the few of us amongst the many who have been brought into personal contact with Mr. Huckle during the long years of his secretariat, but as one of the few I do fully endorse all our Editors have said in the appeal on Mr. Huckle's behalf, and, knowing him as I do, I feel I can say that even the smallest contribution will be appreciated, not only for its intrinsic value, but as a mark of our practical sympathy with him in his long illness. —W. Woodley, *World's End, Newbury.*

BEE-STINGS FOR RHEUMATISM.

[1516.] Can you find room for the following cutting?—A Reader.

"Some two years ago an Austrian physician advanced the remarkable theory that persons who have been stung by bees enjoy an immunity from the effects of the bee-stings for varying periods, and that, moreover, the virus of the bee-sting is an infallible remedy for acute rheumatism. The latter part of the theory, according to the *Mediterranean Naturalist*, has received most unquestionable confirmation from a custom of the country people in Malta. Bees are plentiful in the island, and bee-stings are in such repute as a cure for rheumatism that resort to this primitive method of inoculation has been a common practice in severe cases for generations, the results having been most satisfactory to the patients. — *Western Daily Mercury.*"

WIDER METAL ENDS FOR EXTRACTING FRAMES.

[1517.] I should like to hear something more about wider metal ends to be used above for extracting purposes. I am quite sure eight frames so spaced would produce more honey than ten the present width. Only, should they

come to the fore, I sincerely hope the extra width will be given only by the folding and not in any alterations to the frames. We want a metal end (W.B.C.) *to fit* existing frames with rather more spacing-room.—Bee-Kay.

[We believe the manufacturer of the "ends" referred to intends next season to bring out a special end for wider spacing in the frames of surplus chambers. You may be quite sure that no change will be made in its construction beyond the wider "shoulder," so that no confusion will arise as to top bars.—Eds.]

POLLEN OFF HEATHER.

[1518.] Excuse my directing your attention to a *lapsus* made in reply to correspondent 861. He asks: "Do bees gather pollen off the heather, and what colour is it?" The reply given is: "Bees visit heather for the honey, and not pollen." Now, in Scotland, our experience is that the bees incline to gather too much pollen from heather. It is of a light, almost white, colour, and its presence is a sure indication that the heather is yielding. — James Henderson, *August 5th.*

[So far as our observations have gone, our answer is quite correct; but this answer by no means implies that bees do not get pollen, but that they do not visit *Culluna vulgaris* for the purpose of gathering the pollen. Like many other flowers which bees visit for the honey, they get also pollen from this, because they cannot help it; and it is owing to this that they act as cross-fertilisers. The structure of the flowers of *Culluna vulgaris* is such that insects visiting them for honey are liable to be dusted with the pollen from above, as the style and stamens curve upwards out of the way of the bee, and permit it to reach the honey only by way of the lower half of the flower, which lies horizontally. Although heather, so far as quantity of honey produced is concerned, stands in the first rank as a honey plant, it is certainly not classed as a pollen plant, because the object of the bee's visit is honey, and not pollen, which may be looked upon as more of an incidental or secondary product. We have never been overdone with pollen in our district in the South, where heather abounds, but, of course, different districts vary very much in this respect. The colour of the pollen is grey, and under the microscope its structure resembles the agglomeration of four spheres.—Eds.]

HONEY-COMB DESIGNS AND SECTIONS.

[1519.] I read your editorial on the Scottish B. K. A. Show at Edinburgh in your last week's *B.J.* with the greatest pleasure. It was a great success, and my only regret in connexion with it was that I failed to see Mr. Broughton Carr and make his acquaintance personally. All Scottish bee-keepers will be glad to learn that his first visit to Scotland was so pleasant.

It must have struck every one at the show, as well as Mr. Carr, how much superior the honey-comb designs were in finish and colour as compared to sections; and as a minor prize-taker in this latter class I should be extremely glad if you, Messrs. Editors, would give us a few hints during the dull season, which is fast approaching, as to where we fail in the production of sections as compared to our Southern bee-keepers, showing amateur exhibitors like myself what a really first-class section should be.

It is to be regretted that some code of points for judging honey, such as suggested at the last meeting of the B.B.K.A., is not published by Bee-keepers' Associations as a guide to exhibitors. Let us hope they will be in the near future. It would be interesting to know what bee-keepers think of the suggestion made by Mr. Gordon at the meeting of the S.B.K.A. during the show in Edinburgh as to cottagers' classes. Mr. Gordon suggested that prizes should be offered to bee-keepers having five hives, spring count, and ten hives; this if it is possible to carry out would give small bee-keepers a chance and make bee-keeping more popular than it is at present, as a man with only one or two hives has not the same chance as a man with thirty or even ten, although both may have a rental of less than 10*l.*, which is the restriction put on exhibitors in the cottagers' classes by the S.B.K.A. I had a conversation on the subject with our able Secretary, Mr. Wishart (not being able to be present at the meeting) on the last day of the show, and he thought it would be difficult to carry out, but hope something may be done in the interest of small bee-keepers before another year.—Hy. Marrs, *Midlothian August 8th.*

PRIZES FOR COTTAGERS' SMALL EXHIBITS.

[1520.] I happened to see a schedule of the Lincolnshire Agricultural Show, and found a class for cottagers to exhibit twelve bottles of pure honey. That certainly is not the way to popularise or encourage small bee-keepers. It takes a fairly large apiary to furnish such an exhibit, and there must be more spare cash than cottagers usually possess, first to procure a dozen show bottles and then to incur the expense of transit to and from the show. If a man gains a prize, it (in the Lincolnshire Show) would only just about cover his expenses, and were he not to take one he would be at a dead loss, for I often see the honey exhibited is not sold. I do not know who is responsible for this schedule, but I think it might be made much more attractive. There ought to be classes for one to three bottles and the same for sections limited to cottagers; also a class for six bottles and six sections, open. Lincolnshire is not a rich county and most of the local bee-

keepers do not boast of more than six hives. These want meeting. The dozen bottles and dozen sections by no means do meet them. I wish the influence of your paper might be brought to bear upon the authorities that be, as they then would probably be only too glad to alter the existing state of things.—BEE-KAY.

CARBOLIC FUMIGATORS.

[1521.] It was very interesting to read the account (1507, p. 304), "A Few Days at an Expert's Apiary." If the writer would kindly show us amateurs how to proceed with carbolic, numbers besides myself would be very thankful. Was the sponge saturated with pure carbolic, or was it a mixture? I tried with a saturated sponge mixture according to Rev. G. Raynor's proportions, namely, one-and-a-half ounce of Calvert's No. 5 carbolic acid, one-and-a-half ounce glycerine, and one quart of warm water. It seemed to take no effect on the bees, so that I removed the sponge and in its place used smoke, but the carbolic being so clean, I would prefer it if I knew how to use it. Perhaps, Messrs. Editors, you could enlighten a novice as to the way to use it.—DUBLIN.

[In "Webster's fumigator" the sponge is moistened with No. 5 carbolic *undiluted*, and in order to give the fumes greater strength creosote is also used. The diluted acid recommended by the late Mr. Raynor is intended for preparing carbolised sheets only, not for fumigating. See reply to query No. 867, p. 329.—EDS.]

Queries and Replies.

[865.] *Oil Beetle as an Enemy.*—Would you kindly tell me if bees ever bring the eggs of the oil beetle into the hive by accident, and would they hatch and become a nuisance? This question was asked me some little time back, but I have not been able to find anything about this beetle, and would be glad for a little information.—T. C. W.

REPLY.—The bees do not bring the eggs of the oil beetle into their hives, but in some districts they bring in the larvæ, which become formidable enemies of the bees, frequently doing much damage. The eggs of the oil beetle (*Meloe variegatus*) are laid just below the surface of the ground, and when the larvæ are hatched they climb into the flowers upon the plants in their neighbourhood. There they wait for an opportunity of attaching themselves to insects that may alight. The larva is furnished with strong jaws and sharp claws, and can easily fix itself to the hairs of the bees, and is thus carried into the hives. In some seasons it is more plentiful than in others, and in some countries—more especially in Germany and Russia—it is more abundant than with us, although it has been observed pretty abundant in hot and damp seasons. The presence of the larvæ on the bees is very distasteful to them, and they make every effort to get rid of them, which sometimes ends in convulsions. The larvæ adhere also to the hairs of wild bees, and are carried by them into their nests. They feed on bee-bread. The larvæ do not always discriminate as to the nature of insect on which they fix themselves, and thus a large number are carried away only to perish from want of food; but nature has compensated for this loss by making the female very prolific, and as many as 4218 eggs have been counted in one of them. In some years the primitive larvæ appear in immense numbers, especially on the flowers of sainfoin, dandelion, and bugloss, and attack bees furiously, and frequently pierce and penetrate into the joints of the abdominal rings where the chitine is thinnest. Sometimes they enter so deep that they are hardly visible, and it is not difficult to understand how, under such circumstances, they can be very irritating to the bees. This beetle cannot go through its various transformations in a hive as it does in the nests of wild bees, so when the larvæ attain their full growth they either leave the hive or die, and can be found on the floor-boards amongst the detritus and in the crevices of the hive. The bees do not allow them to touch the brood. When full grown the larva is hardly one-eighth of an inch long. In seasons when they are plentiful large numbers of bees may be seen in convulsions in front of the hive and dying. In Russia such bees have been found to have as many as eighteen of the larvæ amongt the abdominal rings. Another oil beetle (*Meloe proscurabæus*) is of a thick black colour, and the larva frequents a large number of flowers, more especially those of the turnip and rape. It is not so formidable as the first-mentioned, as it only attaches itself to the hairs of the bee, and does not enter at the joints. Fortunately, with us, the beetle is not so abundant as on the Continent, and is therefore not looked upon as very formidable.

[866.] *Removing Runaway Swarm from Wall of House.*—1. Several of my swarms flew away in the spring, and took up their quarters between the weather tiles and the lath-and-plaster in an old farmhouse, near the roof; they can be got at by making a hole in the plaster inside. I want to take them out and unite them to a weak stock I have. Would you kindly tell me the best way of getting them into the skep, and afterwards uniting them, without fighting? 2. Should the bees be thrown down in front of the hive or put in at the top? 3. Should each lot be sprinkled with syrup? If you could kindly answer in the *B. J.* next week I should be much obliged, as I must remove them before September.—J. K. S., *Godalming, August 9th.*

REPLY.—1. When the combs have been exposed by removing the plaster, the bees should be thoroughly quieted by a good

smoking, and, if the combs can be removed one by one with the bees adhering, the latter may be shaken or brushed off with a feather, and allowed to run into an empty skep prepared for them. When the queen has been secured, the bees will settle down and remain with her. 2. It would be safest to remove the queen of weak stock before uniting, and if you have a spare empty hive, set it on the stand of the latter, and throw the bees from skep in front, and allow them to run in. The combs of the weak hive may be lifted out one by one and the bees shaken off in front of the frame hive, when they will join the others peaceably. When all are in, replace the combs among the united lots of bees, and cover down. 3. A little flour may be sprinkled on the bees as they run in.

[867.] *Carbolic Fumigator for Quieting Bees.*—I see in *B. J.* (1507, p. 304) of August 3rd notice of the use of carbolic acid instead of smoke from the ordinary smoker. Could you not, in your next number, give some further details of this method? It would, I think, be most useful to beginners like myself, the smoke being at times most unpleasant and somewhat unreliable.—NED SWAIN, *Canterbury, August 12th*, 1893.

REPLY.—A full description of Webster's carbolic fumigator appears in *B. J.* for Jan. 1st, 1891, page 3.

[868.] *White Clover in Autumn.*—1. There is just now a lot of white clover in our district, and I should like to know if it yields as much honey as in the early summer? The bees seem very busy in it. 2. When is the best time to drive bees, and when is the most suitable time of the day to do it?—C. HAMSHIRE, *August 6th.*

REPLY.—1. White clover never yields half so well as in the month of June. The bees will, no doubt, get honey from it in such weather as we are now having, but not in great quantity. 2. The sooner bees are driven now the better, as it gives more time for them to prepare for wintering in their new quarters. Any time of the day will do if the weather is warm. We prefer between two and five p.m.

[869.] *Foul Brood.*—I am forwarding a piece of comb which I am afraid is affected with foul brood; it is from a stock which was put on seven frames two years ago. The first season they did not fill any sections, and, last year, only ten. This season they have not filled any sections, but the frames are full. I examined them about three weeks ago, and could not find a queen, but an unsealed queen-cell; to-day I found a young queen. Is it too late for her to become fertilised, or should I remove her and put a driven stock with them? Kindly advise me how to proceed.—F. G. F., *August 9th.*

REPLY.—Comb is foul-broody, and that, of course, accounts for the stock doing badly. If the young queen is successfully mated, we should remove her and the bees from the combs, and keep them confined indoors in an old skep while the hive is being thoroughly cleaned and disinfected, burning all the combs it contains. Then fit the frames with full sheets of foundation and return the bees. The driven bees—got ready beforehand—should then be thrown out on top of the others when the latter have nearly all entered the frame hive. Feed with medicated syrup, and use naphthaline on floorboard.

Echoes from the Hives.

Honey Cott, Weston, Leamington, August 5th, 1893.—The season here came practically to an end about three weeks ago. I have scarcely had a chance to take any outside combs from brood nests, many of which are full of honey, having been fully occupied in taking off surplus from section crates and shallow bodies for extracting. I do not think I have had such a good season since 1881, either for quantity or quality. At Stamford Show, friend Sells told me, their clover never came this year, because of the drought; also that the limes, of which there is an avenue of large trees half a mile long, scarcely yielded any honey. To return to my own bees, &c. Before the season is out I hope to have a larger percentage of young queens in my hives than usual. I have already got several laying, and have plenty of drones. With the exception of the one in which I have got the stock that is in Mr. Hooker's self-hiver, they killed many of their drones a month ago. Being asked who made Hooker's self-hiver, I may say, to save further reply to letters, that it was made by Mr. Lee at Messrs. George Neighbour & Sons, High Holborn. I was rather amused at hearing of an expert, well known to readers of the *B.B.J.*, going with his lighted pipe only, on a cool day, and taking sections off. He "wouldn't wear a veil," not he, but he had to "walk off" a time or two, and, as a last resort, he had to use the smoker which was offered to him at first, and declined. I believe the bees pretty well peppered him. How would the gentleman who paid a visit to Mr. Webster's apiary have "stood fire," I wonder, if he had had such a doing? Rather foolhardy to do without a veil.—JOHN WALTON.

CLARIFYING HONEY-DEW.

A correspondent sends us the following cutting from the *Rural World*, and asks if we can give any information on the point raised:—

"Sir,—The section honey of a 'Regular Subscriber' is black, or rather smoke-coloured, like every one else's this year, because, owing to the long-continued and severe drought, little or no nectar was produced by flowers, and the bees, unable to procure this in any quantity, had recourse to the honey-dew (aphides' excreta),

which was deposited in unusual abundance on the leaves of trees and shrubs. Honey thus procured is always smoky in appearance, though the flavour may not be greatly affected. Still, the look of it is so bad that it is sure to spoil the sale, unless the smoky appearance can be in some way eliminated. It is best to 'extract' such section honey, and not put it on the market till the season is well past. But if any one could tell us a way to cleanse and clarify such honey, he would confer a valuable boon on all bee-masters.—Yours truly, H. EARLE BULWER, *Stanhoe.*"

In reply, we beg to say honey can be decolourised and the dark-coloured or dirty appearance removed. But the process is a delicate and rather elaborate one, altogether too troublesome for general adoption.—EDS.

Bee Shows to Come.

August 19th.—Bee and honey show at Mobberley, Cheshire (under the rules of the Lancashire and Cheshire B.K.A.), and in connexion with the Mobberley Horticultural Society.

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries closed. John Latham, Secretary, North Albion Street, Fleetwood, Lancashire.

August 31st.—Castle Douglas Horticultural and Honey Show. Schedules and all information from Wm. Blackwood, Secretary, Castle Douglas, N.B. Entries close August 28th.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main Street, Alexandria, N.B.

September 5th and 6th.—Warwickshire B.K.A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec., Knowle, Warwickshire. Entries close August 26th.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th.—Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 23rd.—Roxburghshire B.K.A. annual show of bees, honey, and appliances, in the Corn Exchange, Jedburgh. Twenty-four classes, including seventeen for honey. For schedules apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh, N.B.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

CONSTANT READER (Norfolk).—*Using Cyanide of Potassium.*—The information sought appears on page 312 of last issue.

A CONSTANT READER (E. A. G.)—*Bees and Poppies.*—We do not think the non-prosperity of the bees can be in any way attributable to poppies, though the latter is an undesirable plant to grow in quantity near bees, on account of the inferior honey it produces. Are you quite sure there is no taint of the foul brood still about the hives? If the hives in which the bees died last year have been used again without thorough disinfection, the disease may have returned.

RAT (Notts).—*Suspected Foul Brood.*—The small bit of comb sent has no dead brood in the few cells it contains, so we cannot say anything as to the stock from which it comes. We must have comb containing dead brood before giving an opinion on it.

D. B. K. A.—*Cakes of Wax Cracking.*—Damp the earthenware mould before pouring in the melted wax (which should fill the mould), then insert the whole in a dish of hot water, and allow it to cool very gradually. The slower it cools, the more surely is "cracking" prevented.

BEE-KAY (Great Grimsby).—Honey sent is good in flavour and colour, but lacks a little in consistency, though it cannot be called thin honey.

J. W. NELSON (Westmoreland).—The sample of honey sent is good in flavour, but not quite first-rate; colour excellent, consistency fair.

SAM MITCHELL.—*Bee Parasites.*—The bees are infected with the parasite known as the *Braula cœca*, full particulars (with illustration) of which are given in *B. J.* for April 14th, 1892, page 146.

J. COLE (Devon).—Honey is very largely mixed with honey-dew.

ZERO (Spalding).—We find no foul brood in comb sent. The very few (two or three) dead larvæ in the cells are not foul-broody, and may have died from several causes, none of which are apparent.

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—The summer weather, which, as we heard an experienced gardener observe, "has lasted since March," still remains almost unbroken; not only so, but the temperature of the last fortnight has been considerably higher than at any time during the year. It is worth noting that although the highest shade temperature of this month (95·1° at Greenwich on the 18th) has been twice exceeded during the last half-century—viz., 96·6° on July 22nd, 1868, and 97·1° on July 15th, 1881—no similarly high reading has been recorded in August, when the temperature in the sun reached 146·2° on the 18th. Since that date, however, a decrease in temperature has taken place, accompanied by fresh breezes and some rather heavy showers. But the summer of 1893 will be remembered as one of the longest and driest on record.

EFFECTS OF THE SEASON.—So rare is it to have our "hottest time" in August, that many bee-keepers have had their calculations considerably upset by the bees "stupidly refusing," as one correspondent puts it, "to store the honey they are now gathering in the sections." It is a fact, nevertheless, as every experienced bee-keeper knows, that, except in good heather districts, bees frequently persist in storing in brood chamber all surplus gathered in August, even with unfinished sections overhead. No doubt, when heather is in good bloom, sections will be rapidly filling; but with plenty of late forage about, we find that the weight of surplus chambers is not added to, while brood chambers are quite heavy. Reports to hand are very promising for a big heather crop in Scotland, where bees are having splendid gathering weather, and if the autumn crop equals that from clover, it will indeed be a red-letter year for northern bee-keepers.

One unusual effect of the excessive heat this month has been to cause bees to "hang out" of their hives, just as they often do in June, and we have had to allay the fears of several correspondents, who only saw "swarms" as a result of this unnatural behaviour on the bees' part. The decrease in temperature has, however, put matters straight again.

On another point, we must once more remind inquirers how unwilling bees are, even in the midst of plenty, to build out comb foundation, or even to complete unfinished combs in August. Some readers appear to think it only needful to *feed* in order to start bees comb-building in warm weather at any season. Such, however, is not the case, and only under very special conditions will they do more than lengthen out the cells of such combs as they are on to store any excess of food given at this season. One solid advantage to bee-keepers of the heat and sunshine of the present month is that it has enabled bees to gather from every nectar-secreting flower that grows in autumn. Thus, stocks from which heavy returns of surplus have been taken are not found this year with foodless brood chambers as they often are, but well provided with winter stores.

THE "WASP PLAGUE."—The most extraordinary accounts continue to be published regarding this curious characteristic of the year 1893. We read of several cases of fatal results from the stings of wasps, and the amount of serious damage done, to say nothing of mischief and annoyances of minor importance caused by their depredations, has apparently been very serious. So far, we hear of no onslaught having been made on hives by wasps, though it has caused us some concern to see them so enormously plentiful everywhere. Bee-keepers should endeavour to distract the attention of the marauding rascals from

the hives as far as possible, by providing plenty of enticement at some distance away from the apiary, in the shape of good-sized, narrow-mouthed glass jars, partly filled with sweetened water, and a little beer or vinegar, but no honey, as a bait. In this way, thousands may be destroyed every day; but if the nests can be discovered they should, if possible, be dealt with on the spot, seeing that it is so simple a matter to destroy them. Anyway, the present immunity from attack on bee-hives should not be regarded too lightly, seeing how much mischief would arise if the wasps began a general onslaught. Caution in opening hives, and the careful avoidance of leaving any honey or bits of wet comb lying about, will do much to lessen risks, and in this case prevention is so much easier than cure that the hint here offered should not be disregarded.

FINDING QUEENS IN AUTUMN.—A correspondent on p. 336 makes mention of this trouble, and appeals for help in the matter. Of course, it is more difficult to pick out queens when there is not much forage to entice the bees abroad, and in consequence the combs are thickly covered by them, than at other times, but there is no fixed plan or rule by which experienced hands can tell how they get over the difficulty. In cases, however, where the trouble is serious, the hive should be moved bodily away for some distance, and an empty one temporarily put in its place while the combs are being examined. This will considerably help those who experience difficulty of this kind, for they do not remember how much more amenable to control bees are when moved away from their usual stand while being operated on.

BRISTOL AND DISTRICT B.K.A.

The annual show of this rising and energetic Association was held on July 21st and 22nd in connexion with the Knowle and Totterdown Workman's Flower Show, which was opened at Knowle, in the grounds of E. J. Thatcher, Esq., by the Mayor; the Mayoress, Colonel Sir E. Hill, M.P., Lady Hill, and many influential Bristol gentlemen being present. The honey exhibit was one of the largest yet held by the Association, exhibits coming from various parts of England, Wales, and Ireland.

The bee-tent was a great centre of attraction, free lectures and demonstrations being given by the Hon. Secretaries, Messrs. J. Brown and E. A. S. Potterell, and the experts, Messrs. J. Martin and H. Hamilton.

The Rev. E. Davenport and Mr. J. Lovell officiated as judges in the bee and honey department.

PRIZE LIST.

Collection of honey.—1st prize, J. Martin, Bedminster; 2nd, J. Brown, Failand; 3rd, E. A. S. Potterell, Clevedon.

Twelve 1-lb. sections.—1st, E. E. R. White, Salisbury; 2nd, S. W. Filtness, Swindon; 3rd, — O'Brien, Waterford.

Twelve 1-lb. jars of extracted honey.—1st, S. W. Filtness; 2nd, E. Bunny, Swansea; 3rd, T. R. Horton, Much Wenlock.

Three bar-frames of comb honey.—1st, J. Martin; 2nd, W. Bryant, Westbury-on-Trym; 3rd, J. Brown.

Granulated honey.—1st, H. O. Huntley, Worcester; 2nd, J. Martin; 3rd, J. Edgell, Chew Stoke.

1-lb. jar of extracted honey (Gift Class).—1st, H. O. Huntley; 2nd, S. W. Filtness; 3rd, H. Seamark, Cambridge.

Six 1-lb. sections (members only).—1st, J. Martin; 2nd, W. Bryant; 3rd, J. Fenner, Henbury.

Many exhibits were "highly commended" and "commended," the former receiving a certificate from the Bristol B.K.A.

The Rev. E. Davenport afterwards conducted an examination of candidates for third-class experts' certificates.—*Communicated.*

LEICESTERSHIRE BEE-KEEPERS' ASSOCIATION.

The annual exhibition of bees, hives, honey, &c., was held at Leicester on July 26th and 27th in connexion with the Leicestershire Agricultural Society's Show, and was a complete success. Over sixteen hundredweight of honey was staged, nearly all of which was of the finest quality. Our limited space will not allow of a detailed description of the various exhibits and the general arrangements, which are summed up by the judge—the Rev. E. Davenport—in his report as follows:—

"I have pleasure in testifying to the very high quality of the show. The exhibits reflect the highest credit on the exhibitors, and serve to show what a good and useful work the Association is doing, whilst the staging of the exhibits and the general arrangements of the show evidence the wisdom and energy of its Secretary."

PRIZE LIST.

Best Observatory hive.—1st prize, H. M. Riley, Tower House, Leicester; 2nd, J. Waterfield, Kibworth.

24 lbs. comb honey in sections.—1st, J. W. Bickley, Melton Mowbray; 2nd, H. M. Riley; 3rd, J. Waterfield.

Best 24 lbs. extracted honey.—1st, T. B. Widdowson, Leicester; 2nd, Miss Cooper, Leicester; 3rd, Dr. W. S. Fulshaw, Earl Shilton; special prize, A. Brown, Loughborough.

Best 12 1-lb. sections.—1st, A. Silcock, Groby; 2nd, H. M. Riley; 3rd, J. Stokes, Harby.

Best 12 1-lb. jars extracted honey.—1st, J. B. Widdowson; 2nd, C. Foxon, Croft, Leicester; 3rd, Miss A. Throsby, Leicester; highly commended, Miss E. Chester, Waltham.

Best "display" of honey.—1st, J. W. Bickley; 2nd, J. Waterfield; 3rd, W. P. Meadows, Syston.

Best section in the show.—A Silcock.

Abbey Park Show.

The annual show of the Leicestershire Bee-keepers' Association, in connexion with the Abbey Park Flower Show, was held on August 8th, and proved to be a great success both as regards the quality and the amount of honey staged. In the class for best show of honey from one apiary nine exhibits were staged, among them being some very tasteful displays. The Rev. T. Davis officiated as judge, assisted in two of the classes by Mr. H. M. Riley; the following being the awards:—

Best twelve 1-lb. jars extracted honey (20 entries).—1st prize, J. Waterfield, Kibworth; 2nd, Dr. W. S. Fulshaw, Earl Shilton; 3rd, T. B. Widdowson, Leicester.

Best twelve 1-lb. sections (9 entries).—1st, A. Silcock, Groby; 2nd, H. M. Riley, Tower House, Leicester.

Best exhibit of honey from one apiary (9 entries).—1st, J. Waterfield; 2nd, W. P. Meadows, Syston; equal 3rd, J. W. Brickley, Melton Mowbray, and R. Tyler, Humberstone.

Mr. H. M. Riley, hon. sec. L. B. K. A., lectured to large audiences in the bee-tent, assisted in the manipulations by the expert, Mr. G. Munday.

DARNAWAY, MOYNESS, AND DISTRICT B.K.A.

The above Association held their second annual show of honey and appliances in Brodie Grounds, in connexion with the Dyke Horticultural Association, on the 2nd August. The show was a great success, the entries for honey being far in excess of last year. The judge, Mr. George M'Lean, Beauly, made the following awards:—

Best super of honey.—1st, Duncan M'Donald.

Best crate of honey.—1st, John Donaldson; 2nd, Alex. M'Kenzie, Cauldearn; 3rd, John Mitchell.

Best six 1-lb. sections.—1st, W. M'Donald; 2nd, D. M'Donald; 3rd, Alex. George.

Best three 1-lb. jars extracted honey.—1st, Charles Johnston; 2nd, Rev. Robert Kerr; 3rd, W. M'Donald.

Best 1-lb. bottle heather honey.—1st and 2nd, C. Johnston.

Best bar-frame of honey.—1st, John Mitchell; 2nd, Alex. George.

Best 1-lb. bottle granulated honey.—1st and 2nd, C. Johnston.

Best 1-lb. cake of wax.—1st, John Mitchell; 2nd, D. M'Donald.

Best collection of appliances.—1st, Alex. George.

Best 1-lb. section of comb honey.—1st, D. M'Donald; 2nd, Rev. Robert Kerr; 3rd, John Mitchell.

Best two 2-lb. sections comb honey.—1st, Alex. M'Kenzie; 2nd, D. M'Donald.

Lady Gibson-Carmichael's medals were won by Mr. Duncan M'Donald and Mr. Charles Johnston, being the two most successful exhibitors.

NOTTS BEE-KEEPERS' ASSOCIATION.

The annual exhibition of this Association was held in connexion with the *fête* of the Porchester Floral and Horticultural Society, Nottingham, at Mapperley, on Bank Holiday, August 7th, and following day. The show was in every way a great success, its supporters staging, in six honey classes, close upon half a ton of honey, which was excellent in its quality and get-up. Of the five honey trophies staged, three contravened rules of the schedule, and were consequently disqualified. Two of the disqualified exhibits would have taken first and second prizes, and so it was decided to withhold the first and to award the second and third prizes to the two remaining exhibits.

The arrangements and staging of the show reflect great credit upon the Executive of the Association. Mr. Jno. Palmer, of Ludlow, acted as judge, and during the Monday afternoon held an examination of candidates for third-class experts' certificates in the bee-tent, where short lectures on bee-keeping were delivered at intervals on both days.

Prize List.

Collection of hives and appliances.—1st, A. W. Pett, Nottingham.

Best frame hive for cottagers' use.—1st, C. Redshaw, Wigston; 2nd, W. P. Meadows, Syston.

Bees in observatory hive.—1st, H. Hill, Ambaston; 2nd, H. J. Raven, Bridgeford; 3rd, Th. Maskery, Kirkby; 4th, A. J. Mortimer, Oxton.

Honey trophy.—1st, not awarded; 2nd, A. G. Pugh, Beeston; 3rd, H. J. Raven.

Twelve 1-lb. jars extracted honey.—1st, G. Wood, Oxton; 2nd, T. Riley, Radford; 3rd, Ch. Wootton, Draycott; 4th, J. Setchfield, Hyson Green; 5th, E. White, Bleasby; v.h.c., A. J. Mortimer; h.c., Nos. 3, 5, and 15.

Twelve 1-lb. sections.—1st, A. J. Mortimer; 2nd, A. W. Pett; 3rd, W. Measures, Upton.

Six 1-lb. jars granulated honey.—1st, H. Merryweather, Southwell; 2nd, S. White, Bleasby; 3rd, H. J. Raven.

Best frame of honey.—1st, S. S. Elliott, Southwell; 2nd, W. Measures; 3rd, G. Wilson, Nottingham.

Six 1-lb. jars extracted honey (non-prize-winners at previous shows only).—1st, J. Setchfield; 2nd, Th. Maskery; 3rd, T. Riley.

Beeswax.—1st, H. J. Raven; 2nd, A. J. Mortimer.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

SOME NOTES OF THE SEASON.

[1522.] It is disappointing to read all the good reports of this season when in this neighbourhood the honey harvest and all connected with bees is unsatisfactory. During the three months' rainless season, the leaves of limes and oaks were dropping with the black exhalation or so-called honey-dew. Every morning the sidewalk flags were wet with the substance, but a microscopical inspection revealed no insects upon the leaves, no greenfly anywhere. The very warm nights had forced the superabundant sap to exude from every leaf in drops until about eight o'clock a.m. Then the hot sun's rays dried it up, and the leaves appeared varnished, but no insect life anywhere. The blooms on the limes were no good for honey. No clover in the fields nor lanes until just now—in the middle of August!—bees are bringing in a little for their daily wants, but none to store.

The bees of a large Gravenhorst "Bogenstülper" were hanging out on the 8th and 9th of August—both very hot days. It was almost too heavy to lift, and besides, a very strong colony. Anybody appreciating the job of turning a "Bogenstülper" up, boiling over with a savage lot of bees, on a hot August day, will understand what a job I had in hand to take four frames full of honey out, and replace them with frames of empty comb. I found I could not lift the hive—this straw skep, holding sixteen frames, so I put a stout clothes-line round the outside of it, with a loop to put my head through, and managed to lift it off the two-feet high stand, and took it a little distance to manipulate. I had put my old black apron over the now open top, but the bees were boiling and brimming over, and, worst of all, furious. I use nothing but a pipe—no veil nor protection; but not being a practised smoker, it often upsets me when it has to be done wholesale. However, the job begun had to be finished. I have had many a little tussle, but this had all the appearance of a "tickler." At last, when almost beaten and daylight failing—eight p.m. had gone—I had to drive the hive and its bees out. It was not a "twenty-one-pound swarm," as lately reported, but it was a good heavy one, filling a large bushel skep, and not nearly all out after twenty minutes' drumming, hundreds bursting forth upon my face, neck, and hands, till, as I gave it them with smoke out of my pipe, I thought of our Editor's remark, "Good for rheumatism," and heartily wished him by my side to be properly cured! These bees were driven in spring, and like all the artificially made swarms have done pretty well; but I have not a single hive where bees have gone up, either into sections or shallow frames, whether with or without queen-excluder zinc. I have heard of one swarm only in this neighbourhood; it did not settle, but flew right away at once.

I took a few combs of fruit-blossom honey from my wintered stocks in May, but it was the colour of porter, and so its colour has remained all the season, neither fit to sell nor even to give away to friends. Out of sixty hives I have fed up eight already with a hundredweight of Demerara sugar. I have taken no honey to speak of, and have not a doubled hive into which surplus has been carried; no comb-building except the artificial swarms, not even patching up or repairing old combs. Since July the plague of wasps has troubled us and does still. Larger wasps are not so numerous as they have been, and a smaller kind—I think wall-wasps—have taken their place. Destroying nests by the fifties and hundreds on different estates, and smaller numbers in every garden and field, keeps them a little reduced. I have six hives cleared out by wasps; four of them were nuclei for queen-raising, each having three not very numerous colonies, and the other two were rather backward and weak hives. When the bees left these hives I was in time to save what little brood and honey they had left. All entrances were reduced to the winter size, half an inch. It was painful to witness bees coming home being attacked, carried away and relieved, robbed of their sweet burdens—bees struggling all over the ground with wasps, although thousands were bottled up in treacle mixed with vinegar as an attraction. I heard of a cottager and a clever bee-keeper, how he managed his nests. It may be new to your readers, as it was to me. I had offered him MacDougall Brothers' Smoke Choking Charges (advertisement enclosed), of which I have bought a quantity, and am giving them away. Half a charge (a whole one costs 2*d.*) is sufficient for a wasp's nest. They are put in lighted, with a shovel of soil to keep the smoke in. His plan was to use a little common creosote. He had no coal tar, powder, or anything else, but a cask of creosote stood handy outside, and he was determined to stop eleven nests within five yards of his cottage, and although the holes were not stopped up properly, he was surprised to find that no wasps came out. Next morning on digging them out, wasps young and old, and maggots in combs were found shrivelled up, dry as powder. He has since tried a spoonful of creosote, and each time with the same result.

As our County Councils are now assisting the spreading of bee-knowledge, would they refuse an application to grant a small remuneration for dead queen-wasps in spring or for destroying nests in summer? It is a question which affects almost everybody—grocers, farmers, fruiterers, &c., bee-keepers included. The mischief wasps are doing in the country in July and August on the ripe fruit is bad enough, but when they attack grapes in the greenhouses it becomes a question for the fruit-grower and the educated gardener, to say nothing of the village shopkeeper, and all these should join in the endeavour to kill them off.—J. G. K., *Grove House, Southborough, Tunbridge Wells.*

THE WELLS SYSTEM.

[1523.] The "Wells" system, when put on trial, loses much of its gloss in my hands, but, unfortunately, we have had a very peculiar and bad season to try it in. After a small surplus in the beginning of May, there was a break until the first week in June. By the way, the honey gathered in May very quickly granulated, and tasted as though it had been mixed with pepper; it quite burnt your mouth. Although it had a very peculiar taste when extracted, it had nothing peppery about it. When the clover put in an appearance the crop was very light, and soon burnt up for the want of rain. The limes bloomed much earlier than usual, and only lasted a few days. The season then was over. The bees began in earnest by July 16th to kill off what few drones they troubled to raise; a grand time of it followed with robbers; they started with a queenless lot of Carniolans, a this-year swarm which arrived with a dead queen. A new one was kindly sent by the vendor, and duly caged in the hive, but was killed. A virgin queen was then tried by direct introduction; she was turned out dead next morning. The rate at which these bees decreased was surprising; in four weeks there were only enough bees to cover as many frames, although the swarm weighed four pounds when hived. Another lot of blacks, existing under the same circumstances, scarcely seemed to decrease at all—they refused to fight, so the robbers had it all their own way until I discovered their little trick. No more Carniolans for me; if this is a fair sample of them, I have had enough and to spare. No sooner was the entrance enlarged and covered with perforated zinc than the robbers turned their attention to the next colony, which was sharing the Wells' with the Carniolans; they were very strong, but the robbers came in such numbers that I was forced to pad the entrance, and used carbolic acid. The worst part of this plan is that acid used strong enough to stop a determined robber also stops the lawful occupants, and the next sight which meets you is to see hundreds of bees clustering about the hive. When the acid evaporates a bit, in go the robbers again as orderly as you please! I soon got sick of this acid business, and on the second day closed the hive, and put a wet cloth all over it. Whatever you do you lose some of the flying bees. After this things quieted down. I have come to the conclusion that the best method of stopping robbing is to open the entrance to the full extent, tack perforated zinc over it, then spray with carbolic acid to keep the inmates of the hive from causing confusion round the entrance, and cover the hive over with a wet sheet. Late in the evening every comb which is not crammed with bees must be removed. It is best to close the hive for two days, for although you may stop robbing entirely one day, the robbers will open the attack early next morning. The perforated zinc must be sprayed two or three times a day to keep the inmates away from the entrance; the refuse which collects can be removed in the evening.

Although there is a saving of timber in making a Wells hive as against two single hives, the benefit is entirely swallowed up by making the perforated dummy. If you have not made one you cannot realise the lively time you have boring and burning; the worst of it is that you have not done with the holes then. I have seven in use, made according to the letter, every one having the holes propolised more or less. Has Mr. Wells ever stated that his dummies are not propolised? If they do not become propolised, all I can say is that his bees are anti-propolisers. I suppose that between now and next spring these holes will have to be cleaned out with a piece of wire. Another difficulty which confronts you is to get the bees and queen to consider the outside comb nearest the dummy (perforated) the centre of the brood nest. The bees must be stopped from storing pollen and honey to any extent in this comb. How hard it is to get bees to violate their instincts every bee-keeper knows, and it is for this reason that a Wells hive has no advantage for a second-rate queen, for she will allow the bees to crowd her into the centre. It has already been recommended that weak stocks should be put together on either side of a Wells', one gentleman recommending this process before having tried it himself; but if a person follows this advice just before the glut, and thinks he will do as well as on the old lines, he is mistaken—at least, so I have found it. I think another disadvantage is using queen-excluder between the brood nest and the super. The bees do not take so readily to the super as when it is not used. Especially is this the case early in the spring, when it is most important that the little surplus which is often gathered then should be taken out of the way of the queen.

One colony cannot be manipulated without disturbing the other. Although the dummy has nearly all the perforations stopped, there seems to be some sort of communication; for instance, there was a virgin queen on one side, the other being queenless. By mistake the virgin queen was put into the queenless lot after they were covered up, &c. The majority of those in the part formerly having the virgin queen

marched into the part of the hive which she now occupies.

I think much of the splendid results obtained by Mr. Wells is due to his careful management, the district, and his strain of bees.—LEONARD SMITH, *Beds.*

[That much of the success achieved under any system of bee-management is attributable to the bee-keeper himself none will dispute, but it is very curious to those who have had the opportunity of seeing Mr. Wells' method of working on the spot to hear of disadvantages which are non-existent in his hands, and yet seemingly cause trouble to others. Anyway, it tends to lessen one's appreciation of the "disadvantages" complained of when the use of excluder zinc is included among them. Why, we thought it was generally admitted that the excluder was indispensable in working—as Mr. Wells does—chiefly for extracted honey, and that there is practically no disadvantage at all in its use. Then, as to the perforated dummy, if we could see one used by our correspondent, it might enable us to explain away his complaint in *that* particular.—EDS.]

WEIGHT OF HONEY GOT FROM COMBS.

[1524]. Last evening I took twenty standard frames, with almost every cell sealed, from a second body of a "Wells" hive. An experienced bee-keeper considered that they would average four pounds a frame; this was in very warm weather. I extracted, and the result is under thirty pounds! Some of the frames were almost as heavy after the operation as before—one weighing nearly four pounds. The combs are new this year. I attribute this small result to the quality of the honey. I should like to know what has been the experience of other bee-keepers. I return the frames this evening, and shall have the satisfaction of knowing that the bees will have a good supper.—A. P. J., *Norfolk, August 17th.*

[We can only attribute the small amount of honey got to unskilful extracting, or a faulty machine to work with, or both combined. Under thirty pounds of honey from twenty standard frames of one-year-old comb, with "almost every cell sealed," is an absurd percentage of the total weight.—EDS.]

TRANSFERRING BEES TO FRAME HIVES.

[1525.] I was sorry to read in your issue of August 10th (864, p. 317), that Mr. John Elvin was not successful in transferring his bees from a skep to a frame hive. The following is a description of the plan which I adopted on April 29th, and, I am glad to say, with perfect success:—

I drove the bees from the skep into an empty one, and shook them upon a cloth in front of the hive which I wished them to occupy. The bees soon took possession of their new quarters. I then placed the skep containing the brood upon queen-excluder zinc over frames in hive. Between the skep and excluder was a piece of canvas with hole in centre, nearly the same diameter as skep. I then packed warmly and snugly, and left it until May 23rd, when, upon removing the skep, I found all the brood had been hatched out, and occupying the bar-frame hive, with the exception of a few drones, which were unable to pass the excluder. I took a nice lot of honey from this hive a fortnight ago. —PERCY LEIGH, *Beemount, August 15th.*

EXPERIENCES, SUGGESTIONS, ETC.

[1526.] Our bee-keeping friends at the heather must be securing a good reward for the trouble of taking up their stocks if a glorious rain, followed by unbroken sunshine for nigh a fortnight, has done anything for them.

Super-clearers.—The spring escape, with me, has simply been perfection. For bee-keepers with not more than a dozen hives one is sufficient. If placed under the super in the evening, the following evening not a single bee will be left in it. It will clear any number as well as one if placed under the lowest. Completed crates of sections should be taken indoors at once, and seen to after removal for the sake of keeping them clean and getting back to hive any odd, half-finished ones to be completed. Sections do not improve in appearance by being left on after they are finished; besides, every crate and surplus box removed and stowed away is so much of the season's work done, and so much less to do.

Catching Queens in Autumn.—We are told, and rightly so, I think, that none but young queens should head our stocks; but the difficulty lies in another direction, *i.e.*, before the *young* queen can be introduced, the old one must be caught. (Do not chide me, amateur friends, for divulging *our* secret.) But I have been bee-keeping a dozen years, and have found, caught, handled, and introduced in that time a fair number of queens. Yet in the autumn, when the time for re-queening comes, and other work is pressing, and the evenings are getting short, to spend half an hour on a sultry August night poring over ten frames, loaded thick with bees, and trying to spot the queen, whilst the said queen is disporting herself on the floor-board—having got through your task unsuccessfully, what is there for it but to repeat the operation, until at last her majesty is "spotted," as I say, on the floor-board? Here she may be caught if your hands are quick enough, but, if your hands are occupied with a frame loaded with bees, your chance is a poor one, and so the hive is closed with "Ah, well, shall have to leave her another season! she is there, but I cannot find her." I wonder if our Editors, or Mr. "Useful Hints," or some other fertile mind cannot say, do, or invent something which will help amateurs to catch the old queen, for that with many is the real difficulty, and not the matter

of either raising, introducing, or purchasing young ones. Queen-breeders, please take the hint and send out a simple but sure way of catching old queens in autumn.

The Season has only been a moderate one with us here, though I have heard of one or two bee-keepers who report good takes of honey. The drought, however, cut the season very short. Like those of many who wrote in the *B. B. J.* this season, my bees were stronger in March than in April (perhaps than in May in some cases), though I gave every attention, especially in the matter of packing and food. Do what I would, they either could not or would not get on, so my take only amounted to fifty nice completed one-pound sections and 100 pounds extracted. Quality, splendid. Have never seen a swarm this year. This is the experience of quite three out of four bee-keepers I have spoken to on the subject. Nothing scarcely was gathered from limes. My bees have all got a good candy cake to help on breeding and plenty of stores.—J. W. BLANKLEY, *Denton, Lincolnshire.*

Queries and Replies.

[870.] *Working a "Wells" Hive.*—1. I have made a combination into a "Wells" hive, and put into it two weak stocks to winter, one on six, the other seven frames. Would one feeder put midway, so as to be got at by both colonies, lead to mischief, or would it be better to feed up each one at a separate hole? I want to stimulate and to give both lots sufficient for wintering. 2. I have one stock on five frames empty of comb, but they are strong enough for eight. I have just turned them out of a hive not standard framed. If I were to feed them every night for a month, would they not draw out the three sheets of foundation I want to add? 3. Should the two colonies in the "Wells" hive winter safely, would it be better to find each one a separate hive in the spring, as I cannot enlarge it beyond thirteen frames, except above, which I do not desire for breeding purposes? The hive is high and unwieldy. This hive serves well for wintering, I should imagine, but awkward for supering purposes.—ENTHUSIAST, *Stonehouse.*

REPLY.—1. We should use separate feeders for each lot, placing them as near the perforated divider as convenient in order to keep the two clusters of bees near each other. 2. Bees so placed do not draw out foundation at all nicely in autumn. We have known them extend the already-built combs to two inches in thickness before capping over the food, while leaving the foundation almost untouched. It would, of course, be different if the foundation were inserted between sealed combs. 3. We should certainly work the hive on the "Wells" system after wintering them so. Why not add a box of shallow combs above each in spring—just as Mr. Wells does—in order to enlarge the brood nests?

[871.] *Introducing Queens.*—1. Can you tell me whether the queen and worker-bees enclosed are pure blacks, and their approximate age? 2. A few days ago I was transferring some bees from an old to a new hive, and during the manipulation the queen (enclosed) escaped. Shortly afterwards I discovered her attempting to enter a neighbouring hive, and a cluster of bees surrounding her. I rescued her at once and returned her to her proper hive, and, for safety's sake, caged her in an American pipe cage pressed on to the honey-comb, and allowed her to remain for two days. At the end of this time I found her dead. Can you tell me whether she was suffocated by the heat or injured by the bees before I caged her? 3. Are these cages quite safe for introducing queens? I have three Italian queens I wish to introduce shortly; would three days be long enough to cage them before freeing them? 4. Would these queens (being fertile) have brood this year? 5. I have some old comb with pollen. Can I give this to the bees to store in their new frames of comb? If so, what would be the best way to proceed? —J. J. K., *Herts.*

REPLY.—1. Bees are not "pure blacks," but as nearly so as the general run of "natives." Queen is probably in her second year, but we can only guess by her appearance. 2. It is probable the queen has been injured in handling and caging. The body is too dry and hard for microscopic examination, but it was a mistake to use a cage on returning her to her own bees. 3. Why not try "direct introduction?" No caging, or indeed any other method, is "quite safe," but, intelligently carried out, the "direct method" is as safe as any we know of. 4. Yes. 5. Bees will not remove pollen from old combs to store it in the new.

[872.] *Re-queening 'Hives.*—We have lately driven a skep hive of bees into a frame hive, tying the combs, full of brood, into frames. We failed to see the queen, and on looking for her two days afterwards, could not perceive her on the combs. Again reconnoitering after two days, we have not found her. The bees are quiet and industrious, minding the brood, bringing in pollen plentifully, and carrying out some drone nymphs and others which were probably injured in the transfer. 1. Ought we to buy a queen for them at once, or trust to them raising one soon? 2. There is some drone brood in the hive now: will they let this hatch out so late in the season? 3. We have one hive which has been so crowded with bees the last two or three years, we always thought it must swarm, but don't think it ever did. Its bees were always quarrelling more or less during the summer months; sometimes a good many were killed in course of a day or two, sometimes but few. The fighting began with the first fine days of spring, and continued with little intermission throughout the year, and we have not been able to find the reason. The result, however, has been very short measure of honey stored in comparison with some other

hives, and an irritability of temper which is often inconvenient, as they systematically object to any person working or walking in the garden, and after the potatoes are planted in spring, the gardener must wear a veil. 4. We think they must by this time need a new queen. Is there a more amiable kind, which it would be wise to introduce, with a view to raising a more peacefully-disposed family for next year? They are the ordinary brown bee, so far as we can tell, though sometimes we fancy there is rather more yellow hair about them than the others have. They have still a good many drones. 5. When is the best time to re-queen, and at what time in the day?—GRANNIE, *South Tipperary, August 14th.*

REPLY.—1. It should first be made quite certain whether there is a queen in the hive or not. Examine the combs for either queen-cells or eggs; the presence of either will clear up the point. 2. They will, if the stock is queenless. 3. Such vicious stocks should be re-queened. 4. Carniolans are quiet bees. 5. Any time now. Buy from a dealer who will guarantee "safe introduction," and take your instructions from him.

[873.] 1. I intend putting a couple of driven stocks taken three weeks ago into a "Wells" hive. When would be the best time to transfer them? 2. Is it necessary to put on excluder now, or wait till spring, using only quilts now? 3. Would it not be preferable to use excluder in two parts, so as to be able to manipulate one side without disturbing the other?—A BEGINNER, *Malmesbury, August 14th.*

REPLY.—1. The sooner the better. 2. A moment's reflection should show that quilts only must be used till supering-time comes round. The excluder, if used, would render the frames inaccessible without its removal. 3. Yes; it should be in two parts, but the first surplus box put on partly covers both excluders. You should, however, study the "Wells" system before practising it, as it is not quite adapted for beginners.

[874.] *Bees "Hanging Out."*—I have a stock of hybrids in one of Abbott's combination hives. The bees cover twelve frames, which are densely crowded, while eight or nine of the frames are full of brood in all stages. A month ago they covered eighteen frames, and I divided them. Not having a queen on hand, the swarm remains queenless. All went well until a fortnight ago, when I found the front of the stock hive covered with bees, while under the alighting-board was a cluster as large as a cottage loaf. Thinking I had got a swarm, I examined the hive for queen-cells, but found none, and everything appeared in a normal condition, the twelve frames being packed with bees. It then occurred to me that the swarm I made a fortnight before had probably returned to the parent hive; but, upon examination, I found them all right, and the ten frames they occupy crowded with bees. Towards dusk I gave them a little smoke under the cluster, and they commenced to run into the hive. Thinking they were overcrowded, I put in two more empty frames; but the same thing occurred the next afternoon, and has continued every afternoon since. Each day the cluster gets larger. Last night it was as large as a bucket, and they hung out all night, and had not gone in at seven o'clock this morning. In the fore part of the day they appear all right, but the cluster commences to form about three o'clock in the afternoon. I shall be very pleased if you can give me any advice on the matter. — NOVICE, *Leicester.*

REPLY.—The "hanging out" is simply a result of the extreme heat. If more air is given, it will no doubt cease, as it will when the weather becomes cooler.

[875.] *Preventing Swarming.*—1. Will you be kind enough to tell me what you think of various systems for securing non-swarming by giving room under the brood nest? 2. How is it they have not come into general use if they are as good as their advocates make out?—BEDS.

REPLY.—What is known as "eking"—*i.e.*, giving additional room below the combs of brood nests — is no doubt one of the most effectual preventives of swarming; but the disadvantages of "eking" with frame hives are so obvious as to render the plan useless for all practical purposes. Hence its not coming into "general use."

Echoes from the Hives.

Knaresborough, August 14th.—I have four hives, and have got about 190 pounds in sections and extracted honey from them. We have done well in this district, some bee-keepers much better than myself. Can you tell me how it happens that I have brood in a super above queen-excluder? It is only in one frame, a small patch on each side of comb.—YORKSHIREMAN.

[Either the excluder is faulty, or the queen must be a very small one, and so have passed through.—EDS.]

Beemount, Stoke Prior, Bromsgrove, August 15th.—We are now enjoying really charming weather. Yesterday the thermometer registered 85° in the shade, and the minimum was 60°. For several days we have been favoured with refreshing showers, and a maximum shade temperature of over 80°. Clover and alsike appear to have taken a new lease of life, for meadows which a month or so ago looked quite bare, are now visited by our little favourites in great numbers. On my way home from business last evening a friend asked me to look at one of his hives. I did so, and, to my surprise, found the bees clustering very thickly on the floor-board and front of hive—in fact, the bees appeared to be on the point of swarming; doubtless the

great heat was the cause. Wasps abound, but I find by keeping the stocks strong and entrance of hives contracted, there is not much harm done by them.—PERCY LEIGH.

"PULLED" QUEENS.

A "pulled queen" may be made to play so important a part that I am glad, not only to tell what it is, but to tell some of the things about it that may be of use to others. When a colony prepares for swarming, it is well known that a number of queen-cells are started, and about the time the first one is sealed the swarm issues. I may say, by the way, that I am saying this on general authority, for my own experience is, that the bees oftener swarm before any queen-cell is sealed. In any case, after the swarm has issued, a second swarm is likely to issue; and before this swarm issues piping and "quahking" may be heard.

At the time of this piping and quahking there is a young queen at large in the hive, the one that does the piping; and the queen or queens that quahk in response are mature young queens that have not yet left the cell, but would do so at once if the coast were clear. They are, perhaps, deterred from issuing from their cells by the fear of the piper, or, more likely, because the workers that constantly surround the cell drive them back whenever they attempt to come out. You can take out a frame, pull off these queen-cells, or pull the end off them, releasing the queen, and such a queen is called a "pulled" queen.

It is well known that a young queen just hatched may be put into any hive, and the workers seem to pay very little attention to it. I doubt, however, whether this is so unexceptionally true as some seem to think. A queen just hatched may be put into a colony having a laying queen, and may supersede her; but I am sure such will not be the case under all circumstances. Acting on the theory that young queens would be kindly received, and assume control anywhere, I tried one summer to replace a large number of my old queens by putting into the hives young queens just hatched, trusting that they would kill the old ones. In at least some of the cases I found the young queens all right for a day or two, but sooner or later they all disappeared, and, if I remember correctly, the thing was a failure in every instance.

If there had been no laying queen in the hive, or one that for any reason the workers desired to supersede, the result might have been different. It is possible that the young queen gets along on good terms with the workers till she takes it into her head to make an attack on the old queen, when the workers put her out of the way. Still, I have known bees to attack a young queen with no laying queen in the hive, the laying queen having been first removed; but generally, after annoying her somewhat, I think they let her go. While a very young queen will be accepted, at least for a time, almost anywhere, it is well known that a virgin queen several days old is difficult to introduce. It may be, then, that the difficulty of introducing increases with age, and that a queen that has been held in her cell by the workers for a day or two is not so readily received by the bees as one that has not yet attained sufficient age to try to leave its cell. I am inclined to think such is the case.

At swarming-time, when it is a common thing to find ten or more queen-cells in every hive from which a swarm has issued, the supply of pulled queens is likely to be greater than the demand, so I have generally paid little attention to the appearance of the cells, but pulled all indiscriminately; and if the queens were not ripe enough it was an easy thing to throw them away. To be serviceable, it is not necessary to wait until a young queen is gnawing its way out, nor till it is well coloured. No matter how green-looking a queen is, if it is mature enough to hold on to the comb and travel over it, it will be all right. Younger than this, the bees will drag it out just as they would a dead bee.

In forming nuclei I think it much better to give a pulled queen than to give a queen-cell. It is less trouble. There is less risk, for there are a good many cases, whatever may be the reason, where a good-looking cell contains a dead larva, and sometimes a dead queen that looks fully matured. It saves time, for the cell may be several days hatching. Besides, if there be any advantage in having a young queen raised in a full colony, and I think there is, a pulled queen has that advantage to the full.

A pulled queen is the quickest and easiest cure for laying workers. So far as I have tried it, it is a sure thing. Just drop a pulled queen on the comb among the brood, and that's all. I believe that, if you try pulling queens, you will not be sorry.—C. C. MILLER, *in "Gleanings."*

Bee Shows to Come.

August 30th.—Honey Show at Fleetwood, in connexion with the Fleetwood Horticultural Society. Entries closed. John Latham, Secretary, North Albion Street, Fleetwood, Lancashire.

August 31st.—Castle Douglas Horticultural and Honey Show. Schedules and all information from Wm. Blackwood, Secretary, Castle Douglas, N.B. Entries close August 28th.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main Street, Alexandria, N.B.

September 5th and 6th. — Warwickshire B.K.A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec.,

Knowle, Warwickshire. Entries close August 26th.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 19th.—Honey Show, &c., in connexion with the North Lonsdale Agricultural Society at Ulverston, under the Lancashire and Cheshire B.K.A. rules. Prizes value 6*l.* 6*s.* 6*d.* Entries close September 7th. Schedules from Nelson Wearing, Hon. Sec., Ellers, Ulverston.

September 23rd. — Roxburghshire B.K.A. annual show of bees, honey, and appliances, in the Corn Exchange, Jedburgh. Twenty-four classes, including seventeen for honey. For schedules apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh, N.B.

Notices to Correspondents and Inquirers

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Isaac Crawford (Co. Tyrone).—1. The use of naphthaline, in addition to medicating the food, lessens the risk of infection very much. 2. Show sections must be well filled and sealed with good bright-coloured comb. 3. Description of how to make honey-comb designs has already been given in our pages. 4. Combs should not be more than three or four years old at most. 5. Two days. 6. No. 7. Bees will not "keep drawing out foundation in autumn." 8. Not much. 9. Consult *Modern Bee-keeping*, price 6½*d.*, from this office.

E. W. (Chester).—*Wintering Driven Bees.*—It is a bad bargain to buy a stock of driven bees at this season, and hope to get them to fill a hive with combs for safe wintering on. They should at least be put on ready-built combs, and have about fifteen pounds of sugar made into good syrup given them for winter stores. If put in a frame hive, with full sheets of foundation as suggested, they might build out four or five frames of comb, but liberal feeding and a good few bees will be indispensable, and even then we cannot guarantee safe wintering. Why not buy a stock in skep, combs and honey included, and winter them in it?

T. G. (Staffordshire).—*We* would not like to guarantee sugar being *pure cane*, and, without such a guarantee, should not use it.

Yorkshireman.—1. Honey is from clover, but is damaged by an admixture of honey dew. 2. Also from clover. Much better than No. 1. Indeed, except for being rather thin, it is a very good honey.

North Devon Bee-keeper.—It is not certain that the suffocated bees are diseased, because that alone, though, of course, destructive of the larvæ, would not cause the outbreak of foul brood. Nor could the foul smell be detected in the other hives three days after the "robbing" occurred. Use the medicated food, together with naphthaline on floor-boards, and hope for the best.

J. W. Blankley.—*Non-porous Coverings.*—The American cloth covering should go on when packing for winter. A wide entrance is needed when non-porous coverings are used.

E. C. R. White.—Of the honeys sent, Nos. 2 and 3 are both good, No. 3 having the advantage in flavour, and No. 2 in consistency. No. 1 is not so good, and is beginning to granulate. The bees are well-marked Ligurians.

W. G. S. (Baxenden).—*Bees clustering outside Hive.*—1. Probably the bees hung out simply from the excessive heat of the last few days. 2. Without seeing some brood in the comb it is impossible for us to tell if the stock is diseased.

J. V. O. (Stoke Prior).—There is no reason to suppose the hive was queenless at end of May, but it has very likely been re-queened some time during the last four years. See reply to "W. G. S." as to hanging out.

J. Greensill (Leamington).—It should be stated *when* "spring feeding was finished," because, though we see no reason to doubt the purity of honey sent, it will not have been gathered *early* this year.

J. W. Napier.—Many thanks for sample of honey. It has the peculiar aroma and flavour of the honey gathered in April of this year. It is from fruit-trees, no doubt, but the smell is too strong and the flavour not good enough for table use.

G. H. Strong.—*Ligurian Bees v. Natives.*—It is a moot point whether any preference should be given to foreign bees. Most of our bee-keepers prefer natives.

Jas. McKean.—If you can rely on the sugar being pure cane, it will do very well for bee-food.

THE
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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

SOUTH OF SCOTLAND BEE-KEEPERS' ASSOCIATION.

Honey Show at Dumfries.

The first honey show of the above Association was held in conjunction with that of the South of Scotland Horticultural Association at Dumfries on the 15th and 16th inst.

In the seventeen classes for honey the entries reached the remarkable total of 250, including exhibits from many parts of the three kingdoms. We believe this is the largest entry ever made at any show in Scotland, the total weight of honey shown being close on three tons, while for quality the display compared favourably with any yet held on this side of the Border. In run honey the quality was very uniform, necessitating much care in making the awards.

The leading features of the Exhibition were the "displays" and "honey-comb designs," Mr. W. Wilson taking first prize in both classes with similar exhibits to those which took the prize at Edinburgh. Mr. Wilson, however, being Secretary of the show, did not compete in any of the other classes. The strongest class in the show was that for two one-pound jars extracted honey, the honey to become the property of the Society in lieu of entry money. In this class there were thirty-six entries, while for the corresponding class for two one-pound sections there were eighteen entries.

The best twelve sections in the show, which secured a silver medal, belonged to T. R. Horton, of Much Wenlock.

The weather being favourable, great crowds visited the show. An observatory hive, exhibited by the President, Mr. T. K. Newbigging, created much interest. The Rev. J. Balfour Robertson, of Leswalt, Stranraer, officiated as Judge, while the duties of Secretary were discharged by Mr. W. Wilson.

Prize List.

Honey (Open Classes).

Best honey design.—1st prize, W. Wilson, Acrehead, Dumfries; 2nd and 3rd, S. Roebuck, Dumfries.

Super under 20 lbs.—1st, S. Roebuck; 2nd, T. K. Newbigging, Dumfries; 3rd, Wm. Hogg, Castle Douglas; com., Ross & Kerr, Dargavel.

Super under 10 lbs.—1st, S. Roebuck; 2nd, Wm. Hogg; 3rd, T. K. Newbigging.

Six 1-lb. sections.—1st, J. Learmonth, Balmaghie; 2nd, J. M'Creath, Dumfries; 3rd, J. Cowper, The Brae; com., J. Cooper, Cavens.

Six 2-lb sections.—1st, J. Richardson, Goldielea; 2nd, J. Learmonth; 3rd, W. H. M'Dowall, Kirkcowan.

Six 1-lb. jars.—1st, J. Learmonth; 2nd, Ross & Kerr; 3rd, T. K. Newbigging; 4th, Wm. Jardine, Greenbrae; h. com., S. Roebuck; com., W. H. M'Dowall; Peter Jeffrey, Kinmount; and J. McDonald, Lochfoot.

Two best 1-lb. jars of extracted honey (to become the property of Society).—1st, S. Roebuck; 2nd, T. K. Newbigging; 3rd, G. Symington, Kilmarnock; 4th, W. Graham, Collin; h. com., R. Barton, Garstang, Lancashire, and Ross & Kerr; com., T. Louth, Riseholm, Lincoln.

Two best 1-lb sections (to become property of Society). — 1st, J. Learmonth; 2nd, Ross & Kerr; 3rd, G. Symington.

Two 1-lb. sections.—1st and sil. cup, J. Learmonth; 2nd, J. M'Donald; 3rd, Ross & Kerr.

Twelve 1-lb. sections.—1st and sil. medal, T. R. Horton, Much Wenlock; 2nd, Ross & Kerr; 3rd, R. Martin, Moniaive.

Three 2-lb. sections.—1st, W. Hogg; 2nd, T. K. Newbigging; 3rd, Wm. Jardine, Dumfries.

Two 1-lb. jars of extracted honey.—1st and sil. cup, Wm. Hogg; 2nd and com., Ross & Kerr; 3rd, Wm. Graham, Cummertrees; com., J. M'Donald.

Twelve 1-lb. jars of extracted honey.—1st and sil. medal, Wm. Hogg; 2nd. Ross & Kerr; 3rd, G. Symington; h. com., T. K. Newbigging; com., S. Roebuck.

Octagon super of honey.—1st, S. Roebuck; 2nd, T. K. Newbigging; 3rd, Ross & Kerr.

Sectional super of honey.—1st, Wm. Hogg; 2nd and 3rd, T. K. Newbigging.

Display of honey.—1st and sil. medal, Wm. Wilson; 2nd, Ross & Kerr; 3rd, T. K. Newbigging.

Beeswax under 4 lbs.—1st, Wm. Hogg; 2nd, S. Roebuck; com., W. H. M'Dowall.

Two 1-lb. bottles of honey (members owning not more than six hives).—1st and sil. medal, Wm. Rogerson, Muiryhill Cottage; 2nd, G. Will, Crichton Estate; 3rd, Wm. Jardine; h. com., J. M'Donald; com., J. Riddick, Mavisgrove.

Two 1-lb. sections (members owning not more than six hives).—1st, J. Roebuck, Dumfries; 2nd and 3rd, J. M'Donald.

BEE SHOW AT ABERDEEN.

The North of Scotland Bee Society's Annual Show was held in the Central Park, Kittybrewster, on August 17th, 18th, and 19th.

In the spacious marquee was staged a very good display of the season's honey, besides observatory hives stocked with bees, and a huge pile of bee-furniture and hives exhibited by Messrs. Cardno & Darling, who were awarded the Highland Society's silver medal for the same. Mr. McFarlane exhibited a case containing three or four different kinds of living wild bees and wasps, with their nests.

The classes for honey were well filled, and on the whole the show was considered the best that has been held for a good number of years back, the quality of the exhibits being excellent. The principal prize-takers in the honey classes were William Ross, who took four firsts, three seconds, and two thirds; J. N. Gray and William Munro came next.

In the special class for ladies were shown confectionery of all kinds and beverages, in all of which honey was used as a flavouring medium. Mrs. Gillespie and Miss Rennie were the prize-takers here, the former lady taking three and the latter two prizes.

A bee-driving and transferring competition also took place, R. McGregor securing first, William Ross second, and A. McFarlane third prizes.

Mr. Carnegie and Mr. Smart officiated as judges.

The yield of honey in the district is considered good, excellent bee-weather having been experienced for the past fortnight or three weeks, which has done much to swell the honey harvest. —*Communicated.*

KENT BEE-KEEPERS' ASSOCIATION.

The annual exhibition was held, on August 16th, in Knole Park, Sevenoaks, the venerable and picturesque seat of Lord Sackville, President of the Association for the current year, in conjunction with that of the Sevenoaks Horticultural Society. In view of the favourable opportunities provided, the Council of the Association fully appreciated beforehand the necessity of making the event a success by putting forth the most attractive prize list possible. Connected with a magnificent exhibition of flowers and fruit—surrounded, too, by one of the fairest scenes of Kentish landscape, and in beautiful weather—the result was lacking in nothing that could enhance its perfection. Expressions of pleasure and gratification were heard on all hands at the display.

In view of the peculiarity of the season in the south, the quantity of honey staged (approximating to 1000 pounds) was satisfactory, though, compared with some of the county associations, it falls short. The special features distinguishing the exhibition were the increase in the number of the exhibits in the Section and Extracted Classes, the artistic construction of the trophies, and the productions of honey in the applied forms of beverages, preserves, cakes, and confectionery, &c. It may also be noted that the exhibits of Collections of Bee-keeping Appliances were more numerous than on former occasions, Messrs. Durrant, of Sevenoaks, Meadows and Redshaw, of Leicestershire, Overton, of Crawley, and Lanaway & Sons, of Redhill, competing for the judges' favour.

The attendance of the public was large, and much interest was aroused, several new members joining the Association. The displays of bee-management by Mr. R. Green, expert of the Association, were witnessed by numerous audiences.

The duties of judging were undertaken by the Rev. R. Errington and Mr. W. Broughton Carr, and the chief prize-winners were found in the Rev. G. W. Bancks, who, aided most efficiently by Mrs. Bancks, contributed numerous exhibits of natural honey and honey applied in a variety of tasty preparations; Mr. T. J. Durrant, who, amongst other exhibits, gained the first prize and silver medal for the best twenty-four sections of comb honey, and the first for collection of appliances; Mr. Till, first for twelve sections and for the best display of comb honey for extracting; Mr. T. Fisher, first for twelve one-pound jars of extracted honey, the Rev. G. W. Bancks being prevented from winning through the operation of a regulation limiting him to one prize in this and the preceding class.

In the Cottager Classes, Mr. F. Langley, Mrs. Payne, Mr. Bearman, Mr. Cox, and Mr. Hills were severally awarded first prizes.

For the best frame hive Mr. Redshaw gained the first place, and the same position for the best hive not exceeding 10s. in price; he was also first for supering racks and feeders. Mr. Meadows and Mr. Overton secured prizes for hives and appliances.

BRISTOL BEE-KEEPERS' ASSOCIATION.

In connexion with the popular annual Kingswood Flower Show a successful exhibition of bees and honey was held at Kingswood, near Bristol, on the 15th inst. The bee department was worked under the auspices of the B.D.B.K.A., and, notwithstanding the drought, the entries for honey exceeded those of last year, the quality of the honey staged being excellent. In the bee-tent, Messrs. James Brown and J. Martin lectured on bees and bee-keeping to such large numbers of interested listeners that it was found impossible to prevent the crowds from forcing their way, and so damaging the netting dividing the lecturers from their audience. Luckily, no further mischief resulted, as the bees were perfectly amenable to control and

very quiet, the whole proceedings passing off most satisfactorily.

Mr. G. Lovell, Wrington, and Mr. E. A. S. Cottrell, Clevedon, were the judges, and made the following awards:—

Twelve 1-lb. jars extracted honey.—1st prize, W. H. Smith; 2nd, J. Brown; 3rd, S. J. Rawbone; h.c., S. J. Flook; c., J. Johnson.

Best super.—1st, J. Martin; 2nd, S. J. Rawbone.

Frame hive, made by an amateur.—1st, J. Johnson; 2nd, S. J. Rawbone.

BIGGAR HONEY SHOW.

The Biggar Bee-keepers' Association held its first annual exhibition under the auspices of the Biggar Farmers' Club, in the Show Park, Biggar, on Thursday, the 17th inst. The day was observed as a holiday in the district, and there was a very large attendance of visitors. In order to make the apiarian department as attractive as possible, Sir Thomas D. Gibson-Carmichael sent a highly interesting exhibit, consisting of specimens of bee-life and appliances of various kinds used in apiculture, both in this country and on the continent. The walls of the bee-shed were hung with diagrams illustrative of the physiology of bees and their mode of fertilising flowers. A fine observatory hive stocked with bees was exhibited by Lady Gibson-Carmichael, and attracted a large share of attention.

In the bee-tent, Mr. S. J. Baldwin (Bromley, Kent) gave lectures and demonstrations with bees to good audiences. Sergt.-Major Hill also explained the structure of the worker-bee by means of Sir Thomas Gibson-Carmichael's huge model of the bee.

The show of honey was, on the whole, a creditable one for the recently formed Association.

Messrs. S. J. Baldwin, Bromley, and John Wishart, Melrose, made the following awards:—

Six 1-lb. sections.—1st prize, John Kirkwood, Biggar; 2nd, James Scott, Biggar; 3rd, Walter Rae, Biggar.

Super, not over 7 lbs., confined to Biggar B.K.A.—Silver medal presented by Lady Gibson-Carmichael, A. Brownlie, Symington; 2nd, Michael Rae; 3rd, Robert Murray, Biggar.

Super of heather honey not under 7 lbs.—1st, withheld; 2nd, Michael Ray.

BEE-CULTURE IN THE COUNTRY.

With the advent of a new style of propaganda in the county by means of the Bee-van, the Berks Bee-keepers' Association hope their continued efforts in the extension and transmission of knowledge on the subject may be further extended to a class that they have not been able to reach by the ordinary methods, and it redounds to the credit of our County Council, who doubled the grant of previous years to enable the Association to purchase the "Van" and carry on the work amongst our rural population. That great interest is taken in the matter, the numbers who attend the lectures prove beyond a doubt. The methods by which the Association works are different from those followed in conveying instruction in some of the other subjects taught by the technical schools. If a working man decides on starting bee-keeping, the Association advises him to become a member of the Bee-keepers' Association, for which he pays 2*s.* 6*d.* per year, and for this 2*s.* 6*d.* he receives the *Bee-keepers' Record* monthly. This publication costs the 2*s.* 6*d.*, so that the member gets the full value of his subscription back at once, and he is also entitled to receive gratis two visits per year from the expert of the Association, who looks through his hives, and gives the best practical advice on how to proceed. Then all over the county there are district advisers, bee-keepers who are old hands in the craft, who will and do give beginners the benefit of their practical experience. So that to any one who really wishes to add a few pounds to his yearly income at a small outlay, I would say as the poor curate said to the Bishop, "Keep bees!" If more hives were kept there would be a better stock of fruit, a larger crop of seed for the farmers; so that every one benefits by the extension of the industry, and I believe that there is no more profitable stock among the minor industries than bees, and no stock that can be kept at less expense and labour. If I pass a garden that has a few well-kept hives in it, I know the owner is one of the best men on the farm. This fact has been proved to me many times during the past twenty to thirty years. The Association was established with the primary idea of helping the cottager and teaching him a better system of bee-keeping than that followed by his forefathers, who smothered their bees with brimstone to secure the honey. All this is now changed by those who adopt the modern system with bar-frame hives, and the bee-keeper would as soon think of cutting down his trees to gather his fruit as of destroying his bees to take the honey. Neither does he want his bees to swarm; what he would like for them to do would be to work straight away through the whole season, and not attempt to swarm, as strong, populous colonies of bees are those that fill the biggest supers, and store the heaviest lump of honey. The publication I mentioned before teams with information for the novice in bee-keeping—what to do and when to do it, all written in a plain understandable style, that he who runs may read.

Then another point of even greater importance to many than the production of honey is the disposal of the same. There the Association steps in with a helping hand to its members, and is still opening up outlets for honey by establishing agencies for the sale of members' honey in every centre of the county, so that there is scarcely a respectable retail establishment in the county that will not shortly, if it has not already taken hold of the commodity.

I know the great bar to starting cottagers in bee-keeping on modern lines is the initial expense of hive and swarm; but these same cottagers manage somehow to raise the wind to start pig-keeping. Now, comparatively, the pig costs, with its stye, trough, tub, and pail, quite as much as the useful modern hive and the swarm of bees to stock it; but, after establishing the hive, the cost of maintenance is, comparatively, vastly in favour of the bees. These industrious little creatures stock their own hive, board and keep themselves, and, even in the first year, if a good honey season, furnish a surplus for the bee-keeper, whereas the pig requires constant attention, and, if food happens to be dear, he metaphorically eats his head off before he gets fat enough to kill; even with the best of luck, piggy only results in a small margin of profit to the keeper. With the same investment in bees the profits would be cumulative, as there would be the natural increase by swarming, and this increase could be sold as stock to start another bee-keeper, or the bees driven and united to the bar-frame colony, thus leaving the hive strong in bees to go into winter quarters, ensuring success the following season, and the contents of the hive appropriated by the bee-keeper, the best parts retained for consumption in the winter, the combs soaked, and the liquor made into mead (once the principal beverage of the island), while the wax can be sold to the chemist or grocer. Therefore, to the poor cottager who would like to live rent-free, I say keep bees, and, if kept intelligently, I say, without fear of contradiction, that the bees (but not piggy) will pay the rent.—W. WOODLEY, *World's End, Newbury, in "Newbury Weekly News."*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

CLARIFYING HONEY-DEW.

[1527.] On page 330 of *B. J.* for August 17th you refer to a process for decolourising dark-coloured honey. I should be much interested in the details of manipulation. What you say in regard to general adoption may be quite correct, but, granted *capacity, deftness,* and *perseverance* in any one, I am not led to infer that it is impracticable. I am a bee-keeper in a small way, and not afraid of trouble, so if you can favour me with full information on this matter, you will much oblige.—R. B. MACKIE.

[The process of removing the dark appearance caused by honey-dew is not impracticable, but will be found to be very troublesome to a person not used to chemical manipulations. We have succeeded in doing it in the following manner:—To one part by weight of honey take two parts by weight of water. Put the water on to the honey, and stir with a glass rod until all the honey is dissolved. Then place some powdered animal charcoal into the solution. The charcoal must be thoroughly dry, and must have been placed in an oven previous to using. The quantity of charcoal used will depend upon the amount of discolouration to be removed, and can be arrived at only by practice. A chemist will know at once how much he may use, as too much removes some of the levulose, and also would impart a disagreeable taste to the honey. The charcoal must be well stirred in, and the vessel placed on a water bath, the contents being stirred until the charcoal is thoroughly mixed, and the liquid sufficiently heated to filter. Then prepare a hot-water filter, and place your filtering paper (thick Rhine paper) in this. The hot-water filter is a funnel of copper, double jacketed, containing water which is kept at a proper temperature by means of a spirit lamp. A flow filter is placed in this to contain the filtering paper, and the mixture of honey and charcoal, which is as black as ink, is now poured in. If the temperature is right, the liquid begins to pass through, and the first poured back into the filter until it comes out perfectly clear. If it does not do this, a little more charcoal must be added, and the process recommenced. After the whole has been filtered, the superfluous liquid must be evaporated on a water-bath until the honey remaining weighs the same as that put in at first. On no account must the honey be evaporated in a saucepan on an ordinary fire, otherwise it would be burnt, and all the aroma would be lost. The water in the water-tank may boil, but the vessel containing the honey must not touch the bottom, but be entirely surrounded by water. If our correspondent has had any practice in chemical manipulation, he will have no difficulty in carrying out our instructions, which describe the process by which we have ourselves succeeded in clarifying a sample of as dark honey as we have seen this year.—EDS.]

A VISIT TO THE HEATHER.

[1528.] A party of sixteen, of whom I formed one, started on the morning of Saturday, the 19th, for a drive to the "heather hills," some twenty-eight miles distant. The first ten miles of our journey was through a fertile and well-cultivated country, after which we entered on the land of heathery hill and dale, which was magnificent to look on. Arrived at our jour-

nev's end, we found the purple bloom was alive with bees, and the flow of honey quite beyond my expectations. From the largest colony on the ground, its owner had taken ninety-seven pounds of clover honey, and to the best of my calculations, this stock would return more than double that weight before the season is over. A single-queen stock, too! I next visited my own bees located near, and found my No. 1 stock (queen got from High Wycombe, Bucks) had reached the handsome weight of 110 pounds; No. 2 (queen from Seaford, Sussex) weighed ninety-seven pounds, though I only got this queen on June 12th, and put her in the empty hive along with one pound of Scotch bees, giving them ten pounds of sugar to start them along. I call this extraordinary work for so short a time. All my stocks which are headed with English queens have done better than the others, so I suppose they like the change to Scotland. I spent eight days on the hills with the bees, and returned with heart greatly refreshed to the valley of the Clyde.—MATTHEW H. PATERSON, *Lanarkshire, N.B., August 21st.*

ABNORMAL BEES.

[1529.] I send you to-day a mail-cage containing ten dwarf Algerantees, some French coast bees, full-grown Algerians and Carniolans; you may see on the lower side of the cage the exact number of each. I thought it would interest you to see such tiny bees, hardly any bigger than *Apis indica* or *Apis florea*. Why are they so tiny? I ask you to solve. I can tell you this: The hive containing a number of these, I should say one hundred, was sent to me from Alma, Algeria, by my brother on June 13th. They arrived here in Nice on June 19th, thus being shut up during six long summer days. What the days were in Algeria I don't know. Here we had, June 13th, 19° Cel. morning, 26° noon, and 23° evening. June 19th, 27° noon, 21° evening. On board the steamer they were from the 15th of June, noon, to the 17th, noon. I saw them here, where they were only delivered on Monday morning, June 19th. On unpacking the hive contained about 4500 dead bees and 12,000 live bees: a little more than a quarter had perished. The bees were filling eight combs of the thirteen present (29 × 25 centimetre frames). There were four combs of brood, four combs containing honey and pollen, and five empty. The heat had killed some of the brood, and, *it seems to me*, the brood hatched very long after it ought to have done so normally. I am sorry I did not mark the exact date, therefore, I say, *it seems to me*. The brood—was it hurt, and thus dwarfed the bees? I give you these particulars and hope you will have it made clear.

We are having curious weather here. Thus, the 27th and 28th were winter days, waterspouts, and thunder, and rain. I went up to my Cyprian apiary, seventeen kilometres up the Alps, Mount Ageh, with rain all the way, and came back all soaked. I have my queens purely mated up there, and will send you specimens as soon as I know you are in London, for those I ought to have sent from Palestine. I will also send the others, if you like. I have Algerians, Carniolans, Italians, French, Palestines, and Cyprians.—PH. J. BALDENSPERGER, *Nice.*

[The bees arrived in splendid condition, there not being one dead bee amongst them, which speaks well for our esteemed correspondent's method of caging. The African bees were particularly lively. With respect to the ten dwarf Algerian bees, it is not the first time we have seen honey-bees so small, and have attributed the stunted growth to defective nutrition in the earlier stages of their larval existence; otherwise, the bees are well developed, but are hardly as small as *Apis florea*. We do not think injured brood would have produced this effect. We shall be glad to have the specimens you offer us after the middle of September.—EDS.]

WASP-TRAPS.

[1530.] Wasps are so unusually troublesome this year that I have ventured to describe the way I attract them from my own hives. I get glass jam jars that hold two or three pounds of jam, and are usually cast away when empty, smear the inside with jam, then about half fill them with water, and stick a small flower-pot down into the neck of the jar, and the trap is complete.

Another very efficient trap, costing scarcely anything, is the grocers' empty jam tins. Make a half-inch hole through each side half way up, fill almost up to the holes with water, smear the inside above the holes with any kind of fruit preserve, and lay a sheet of clean glass on top of tin. I have caught about two gallons of wasps per week this summer by these means, and they have not yet molested my bees, neither have I found one bee in the traps. I have one at back of each hive.—GEO. W. HOLE.

CAN BEES WITHDRAW THEIR STINGS?

[1531] Many bee-keepers are under the impression that bees are unable to withdraw their stings, but such is not the case, as a few days ago while manipulating a stock which was queenless and the bees very depressed I got stung on the back of my hand. The bee instead of, as usual, flying off and leaving its sting behind, commenced walking round and round, but after seven or eight rounds it stopped and reversed the motion, when the sting began to come out, and after five or six rounds the sting was extracted and the bee flew off apparently none the worse. The latter motion was in the same direction as used when drawing a corkscrew out of a cork. The same day I got stung by another bee from the same hive, which also extracted its sting almost immediately by starting the circular motion in the right direction. Although I have had a large number of stings

from time to time I have never seen the sting extracted before, although I knew that it could be done.—JOHN C. WALTHAM, *August 23rd.*

[It is well known to experienced bee-keepers that if a bee is held by the thorax, after inserting its sting, so as to prevent it from forcibly tearing the organ from its body, it will gradually withdraw the sting without damage to itself.—EDS.]

LARGE HONEY EXHIBITS.

[1532.] I was pleased to see Mr. Woodley's remarks on the above subject in *B. J.* for August 17th (p. 326), and hope the suggestion thrown out by so *unselfish* an authority will have the desired effect upon show committees when arranging their schedules in future. Personally, I have always felt that small bee-keepers were overlooked in this matter, the same competitors coming forward almost every year with displays by the hundredweight and carrying off the prizes, while if the quantity had been limited, the owner of ten hives would have an equal chance with his neighbour owning fifty. I have before me the schedule of the S.B.K.A. (Glasgow Show), and see that in some classes large exhibitors practically have the schedule all to themselves. The first prizes in Classes 163 and 171 can be won by the same exhibitor, the one class being simply a duplicate of the other. I wonder how many of our smaller brethren, owning from four to eight hives, can turn out glass sections, designs, and the like for Class 171? The prize list shortly will tell. Again, the schedule of the Edinburgh Show had a class for extracted heather honey so early as end of July, when very little heather had more than commenced to bloom. Now, however, extracted heather honey is wiped off the list entirely. I feel justified in saying no class in the show would have been so well competed for at this period of the year. I do not mention these little matters in a spirit of fault-finding, but I think the compilers of the schedule should have added *extracted heather*, and also have given free scope to include extracted honey in Class 171 for the most attractive display.—J. D. MCNALLY, *August 22nd.*

POLLEN OFF HEATHER.

[1533.] In your foot-note to my letter (1518, p. 327) you seem to assert that bees take pollen from heather by mere accident. If you mean to assert this—and I can gather no other meaning from your explanation—I can only say that it is entirely opposed to my knowledge, gained from daily observation. Some bees take no pollen from the heather, others may be a little dusted with it, but a large number carry it in large pellets. You do not explain why bees do not *purposely* gather pollen from heather, or how on a heathery moor they could find sufficient pollen for their young brood, unless they got it from the heather. Surely, if they require pollen for their brood, they will "visit *Culluna vulgaris* for the purpose of gathering pollen."—JAMES HENDERSON, *Renfrew.*

[The structure of the flower sufficiently explains why the bees do not purposely gather pollen, and if they can get it elsewhere they will not go to heather for it if there was no honey. Bees, however, do not waste anything they can use, and hence carry what they get in pellets—gathered there from their bodies by means of the combs and other implements they have for this purpose. There are other plants on a heathery moor or in the immediate vicinity where bees could get pollen sufficient for their brood to supplement that which they get accidentally. Besides, *Erica titratix* yields pollen in abundance and is visited by bees principally for this, as it is much easier collected by them, the flowers hanging down and the stamens come directly in the way of the bees' tongue. We have never seen bees visiting *Culluna vulgaris* for the purpose of gathering pollen, although they may be driven to do so if they cannot get it with less trouble. We are quite open to conviction, but our correspondent has advanced nothing to show us that our observations are not correct. It is, however, some satisfaction to us that such authorities as Müller, Rotshutz, and others who have given the matter their attention are of the same opinion as ourselves.—EDS.]

A GOOD HONEY YEAR.

[1534.] The season of 1893 has been a good one with me, and I think all bee-keepers in this neighbourhood will have no cause to grumble. My best hive—the only one I could work for doubling—has not given me less than 140 pounds of extracted honey. One skep gave thirty very good sections, besides some partly filled: altogether my five stocks have yielded me something like 270 pounds of honey and two swarms, the first of which I lost. The first part of the summer was very trying for the bees, cold east winds and very dry; but fortunately some good rain-storms passed over us just as the clover and limes were coming into bloom. This freshened up the clover, and washed away the honey-dew from the limes. The honey was very variable in colour, the first being very dark, but that from the clover and limes was very good indeed.—G. W., *Oxendon, Market Harborough, August 25th.*

A VISIT TO AN EXPERT'S APIARY.

[1535.] Thanks for the insertion of my crude description, "A Few Days at an Expert's Apiary" (1507, p. 304), but I fear that, as so many others have done, I verified the old saying, "A little learning is a dangerous thing." If I said "the apiary consisted of small and inexpensive hives," I gave a wrong impression.

Mr. Webster writes me that I do him an injustice if I convey the idea that he goes in

for bee-keeping on the cheap and careless system, for he is strongly opposed to using so-called "*cheap* hives," and is most emphatic upon the point "that every hive should be capable of enlargement indefinitely, so that it be *upwards only*." He showed me colonies that had produced 140 pounds of honey in the season, on which were tiered one shallow super and five section racks. I presume one could not call such a hive *small*. I am sorry my inexperience has led me into unconscious misrepresentation, and I may here add that all the hives standing in the apiary were wholly of pine wood, some of them having been there ten years.—JOHN PYM, *August 25th.*

PROVINCIAL HONEY SHOWS.

[1536.] I should like to know the opinion of other bee-keepers (through your valuable *Journal*) in the provinces of holding an annual show of honey and bees (all classes open) in connexion with bee-keepers in all parts of the provinces, say in one of the large towns. Taking Birmingham for the centre of the Midland districts, the surrounding counties combined together could, I should think, offer some very good prizes to induce all bee-keepers to compete. I should also suggest that the shows be held in September, the first one to be in the first week in that month, and a week allowed between each show so as to give competitors time to get their goods from one place to another. Supposing the show for the Yorkshire districts were held in Leeds, and in Preston for the northern districts, London for the southern districts, it would require a little time to get from one place to another. I think it would be the means of bringing some of the most prominent bee-keepers of whom we read in your valuable paper to know each other.—A SHROPSHIRE BEE-KEEPER.

[We give insertion to the above, as requested, but would remind our correspondent that the first point to settle is how to secure an executive able and willing to undertake the task of organizing a series of large shows, as suggested. Such work is usually a labour of love, and our Bee Associations would justifiably prefer to concentrate their personal efforts on their own county shows. There can be no harm in hearing what others have to say on the point, but we do not think the scheme would work out successfully.—EDS.]

MY METHOD OF EXTRACTING WAX.

[1537.] Doubtless many bee-keepers during the season get many broken pieces of comb, cappings of sections, parings, &c., which in themselves are not of much value as they are, but can be turned into material for making brood or super foundation, as the occasion requires, if the right right means be employed. There are, we know, several wax-extractors in the market, but they are all more or less expensive, whereas my plan simply takes a little time and trouble. In past years I tied all my wax offal in a muslin bag, then placed it in a saucepan, partly filled with water, and boiled for several hours, after which the saucepan was removed from fire and contents allowed to cool, when the wax would be found in a cake on the surface of water. This year I have another system, which I find answers much better, for I get, at the very least, two-thirds more wax, and it is a much better colour. Put all scraps of wax, old comb, &c., into a stone jar—an upright one similar to those table-salt is put in I find the best—and place in a fairly hot oven; replenish until jar is full of melted wax, then remove. When wax is solidified invert jar, and contents will easily be removed. All foreign substances will be found quite distinct from the wax. This wax can then be remelted and strained through a piece of cheesecloth, and run into moulds as fancy dictates. I hope the above will be of use to those who do not wish to go to the expense of buying an elaborate extractor.—PERCY LEIGH, *Beemount, Stoke Prior, August 15th.*

[The above will, of course, only be useful for those dealing with a small quantity of combs; but we would like to know what sort of suitable jar can be had, shoulderless, and with such perfectly straight sides as to allow of the cake of wax being removed when cold? We should also advise using a little water in bottom of jar.—EDS.]

A BIG WASPS' NEST IN A ROOF.

[1538.] I herewith send photograph of a large wasps' nest, thinking it may be interesting to you. On Thursday last I removed some tiles from a roof where I had seen wasps flying in and out, and there was the nest attached to one of the rafters. I had no further help than that of my bee-smoker, and, passing a knife between the wood and the nest, took it out with naked hands, so you see we can be masters of wasps as well as bees! The nest measures about fifty inches in circumference—M. H. TILLEY, *Dorchester, August 22nd.*

WEIGHT OF HONEY GOT FROM COMBS.

[1539.] With reference to the remarks as to the "Weight of Honey got from Combs" (1524) in the *B.B.J.* for August 24th, allow me to say that I cannot think the reasons given for the small amount of honey from the twenty standard frames is a true solution. "Unskilful" in extracting I may be, though I have extracted hundreds of combs during the last ten years, and never before, that I can remember, had such poor results, and I should be sorry to think the machine was "faulty," as I bought it of a well-known manufacturer last April; and besides, in some parts of the frames, the cells

were thoroughly cleared, therefore I cannot but think the small amount was due to the quality of the honey, a sample of which I send marked A, and also another marked B, according to your request in *B.B.J.* of August 10th, and I shall be glad to know your opinion.—A. D. J., *Norfolk, August 26th.*

[The above renders the question referred to us for solution more knotty than ever. The sample of honey kindly sent is of fair consistency—in fact, just such as we should expect to "extract" easily with the help of an ordinarily efficient operator and machine. But as to the reason why so small an amount of honey should be got, we are further off than before after reading the above note. Surely, if the honey is removed, the combs cannot weigh "almost as heavy as before?" We have known old combs from brood chambers—sealed, and apparently full of honey—yield very little because of the cells being more than half filled with pollen, covered with a slight layer of honey; we will not, however, even suggest this as a solution of our correspondent's query, but it would be extremely satisfactory to us to have one of the combs "as heavy as before" sent for inspection. We would gladly help in clearing up the matter, and see no other way of doing so than personally examining what might be called the "awful example" which has brought about the difficulty. Many thanks for sample of dark honey as "specimen."—EDS.]

SOME BEE-NOTES FROM SCOTLAND.

[1540.] The following particulars may be interesting to your readers:—I transferred in the spring two stocks of bees to a double hive in some respects on the principle so successfully carried out by Mr. Wells. The hive was a large one holding in each division fifteen frames about the standard size. The bees were very strong. The entrances were at each end, eleven inches long, which could be contracted by means of slides.

Immediately opposite each end, at seventeen inches away, I placed in May two empty hives, so as to be ready for swarms. The two divisions of the main hive I will call Nos. 1 and 2, and the empty hives opposite I will call Nos. 1*a* and 2*a*. There was a wooden board between No. 1 and No. 1*a*, also between No. 2 and No. 2*a*, across which the bees could walk. As the spring advanced, so did the bees in numbers. No. 1 was the stronger hive. Neither hive has swarmed, but bees began to walk across from No. 1 to No. 1*a* and from No. 2 to No. 2*a*. The numbers of bees going across seemed to increase, and they soon began to bring in pollen and honey. As regards No. 1, a great deal was stored. The bees alighted at No. 1 entrance, but many of them without hesitation at once walked across to No. 1*a*. They also walked backwards and forwards. I occasionally put a slide across the entrance to No. 1*a*, and the bees after running along the slide for a bit, at last gave it up, and walked across to No. 1 and entered. No. 2 and No. 2*a* went through the same process. No. 1*a* seemed so strong that I put a small super on it. I began to think No. 1 queen had walked across also, so I examined No. 1*a*. She had not, however, done so, but there was a considerable quantity of honey and pollen.

On June 19th I gave No. 1*a* a frame of worker comb with a few eggs in it, and a week later I gave No. 2*a* a similar frame. About ten or eleven days later I examined No. 1*a*. I found a queen's cell, where I had seen the eggs. In order to see the comb properly, I gave it a shake in order to knock off some of the bees. I think I loosened the grub from its position, as when I next looked there was no sign of the cell—all had disappeared. A few days later, I inspected No. 2*a*. There were two queens' cells. I examined the comb from day to day almost, as I was anxious to see the result. These two cells did not hatch, but remained untouched by the bees, except that one of them had the mark of a cell-bottom on its side. I, however, left them as they were till about the 19th of July. The comb had come out of No. 2 hive, and from certain signs of the bees belonging to No. 2, I suspected a queen was wanted. The wasps were very severe, however, on No. 2*a*, and I decided to remove it on the morning of July 19th. I shook the bees off on to the floor-board, feeling sure the bees would join No. 2. I examined No. 2, and to quieten the bees I put a carbolised cloth over it. The result was that a crowd of bees came outside. I found plenty of brood, however, which satisfied me that the hive had a queen. I left it for half an hour, expecting to see the bees all settle down. On my return I found on the floor-board where No. 2*a* had been a large number of bees, and I pushed my gloved finger into a small cluster of them, and set free a queen, which was apparently being balled. She was lively, and I got her near to the entrance of No. 1 hive, and went for a queen's cage and a man to help me. On my return she had not moved from the spot where I left her, and I secured her: she was again being balled. She was a small-looking queen, and her wings were all tattered, and I doubt if she could fly. I however brought back No. 2*a* hive, and caged the queen on a honey-comb, and close to the two cells. I left her thirty hours and set her free; she was very lively. I left home in a day or so for Edinburgh, where I remained for a part of the show week. The clover at that time had begun to fail, and the heather had not fairly set in, but before I left home there were signs of fighting at the entrances, and the wasps were very severe on the two hives Nos. 1*a* and 2*a*, but when I again got home, I found matters much worse. As regards No. 1*a*, I simply shook off the bees from the frames opposite No. 1 entrance, removed No. 1*a* hive, and put a slide in so that the bees could not get to the position where it had been. I examined every corner of No. 2*a* hive. There

was no queen and the queens' cells were torn open at the side, and the contents removed; but the wasps and robber-bees had made sad havoc with the honey, and the bees in these two hives were sadly weakened. There was one peculiarity about the two hives Nos. 1*a* and 2*a*: the bees outside never fanned, while on the strong hive entrances opposite, there were generally thirty to forty. I can in no way account for this. It is possible the caged queen set free before I left home had been balled and killed, and the dead queens in the cells had also been pulled out in order to eat up the honey or queen's food inside them. The grubs, which I supposed were queens, must have been in the cells for a month before being torn out. Though it is now nearly three weeks since I did away with the two hives, Nos. 1*a* and 2*a*, wasps and robber-bees come to the old entrances, now shut up with slides, and are attacked by bees belonging to Nos. 1 and 2 respectively. I have secured about one hundredweight of section honey fron No. 1 hive, and about ninety pounds from No. 2, and shall shortly remove what honey I think can be spared for extracting. Not a bad season, Messrs. Editors, but I dare say others have done more. —T. McC., *Ecclefechan, August 18th*, 1893.

Queries and Replies.

[876.] *Bees Refusing Foundation.*—1. I send you a few sections to examine, in order to tell me, if you can, the reason the bees have joined sections to tin dividers. I also send a piece of the foundation used. 2. Is it usual to use tin as a divider instead of zinc? 3. The crate containing sections was left on the ground outside covered with carbolised cloth, but the bees cleared the honey out in spite of the carbolic. Is this usual? My bees are busy gathering honey from a second crop of clover.—BEE-KEEPER, *N. Norfolk.*

REPLY.—The combs in sections owe their irregularity and completely unnatural condition to the aversion of the bees to use the foundation given them as a basis for building on. We have not seldom had occasion to notice this same peculiarity when white, bleached wax is used for making the foundation. 2. Tin answers as well as zinc. 3. Bees will overcome almost any obstacle to steal honey left in supers outside.

[877.] Having taken to reading your *Bee Journal* for some months, I presume I am entitled to ask questions. 1. What can be done to prevent bees from sticking the frames so tight to the hives? 2. In taking away frames, how can you be satisfied that it is all honey? Might there not be some sugar that was left from last year in frames, or do the bees clear out food that was given before depositing honey? 3. How many frames that are quite full of honey should be left to winter a fair-size stock? 4. Can you explain why more interest is not taken in bees in a county like Devonshire, that there is not some sort of society formed, that people may get further enlightened on the subject? A great many bees are destroyed every year in this district. 5. How many seasons is a queen good for?—F. W. H., *Totnes, August 25th.*

REPLY.—1. The trouble from propolisation may be lessened by rubbing a small quantity of vaseline on all parts liable to the "sticking" process complained of. 2. Surplus honey-storing should always be done in surplus chambers, placed over the frames, in which sugar syrup has been stored as bee-food. The bees recognise no distinction between honey and sugar syrup. 3. It depends on how much honey each frame contains; at least twenty pound of stores are required to winter a stock on. 4. There *was* a Bee Association in Devonshire, but for some reason it has ceased to exist. 5. Two.

[878.] *Driving Bees from Supered Skeps.*—I am going to drive some bees belonging to a cottager here shortly, and would be glad of some advice. Two of the hives have three supers on, all full of bees. How am I to manage, as it says in the book, to turn the hive upside down and put it in a bucket to hold it? Could I drive the bees into a box instead of a skep, if a friend held the box in position while I rapped the bottom hive? This and any other advice you can give will be thankfully received. —A NOVICE, *Perth, August 28th.*

REPLY. — The supers should certainly be removed before the "driving" can be safely done. If the bees are too numerous to find room in the skep after removal, an "eke" may be set below to enlarge it, and the driving take place after the bees have been got out of the supers and are settled down in the skep.

Echoes from the Hives.

Neumunster, August 21st.—Here in the North of Germany this is a very good honey year, and the late flowers are still yielding nectar every day.—ADOLF WAHLE.

Somersham, Hunts, August 28th.—Bees filling supers and sections splendidly. We have about fifty acres of buckwheat and mustard now in bloom. I had one stock that gathered twenty-seven pounds in eight days in a shallow-frame super of nine drawn-out combs, and extracted, and now they are filling up again.—R. BROWN.

Flamstead, Dunstable, Beds., August 29th.—I have five stocks of bees in frame hives, which I was obliged to move in April last, and wrote asking your advice about. They did not take any hurt through moving them. I have taken 267 completed sections and about 28 pounds of extracted honey from them. Do you consider this a fair amount? I made the whole of hives and section crates myself. None of the hives

have swarmed; they are all in splendid condition, with plenty of stores; in fact I think they have got too much, if anything, being on eleven and twelve frames. They seem to have gathered a goodish lot of honey during the last two or three weeks in brood nest. Many thanks for the help derived from your valuable paper.—W. H.

Bee Shows to Come.

September 2nd.—Vale of Leven, B.K.A., at Burgh Hall, Dumbarton. Schedules from J. Walker, Secretary, 74 Main Street, Alexandria, N.B.

September 5th and 6th. — Warwickshire B.K.A. at Solihull, in connexion with the Warwickshire Agricultural Society. For schedules apply James Noble Bower, Hon. Sec., Knowle, Warwickshire. Entries closed.

September 6th and 7th.—Derbyshire Bee-keepers' Association, at Derby. Entries close August 31st. Over 18*l.* in prizes. Special facilities offered to distant exhibitors. Schedules from W. T. Atkins, 12 North Street, Derby.

September 6th. — Scottish B. K. A. first autumn show of honey and wax, in connexion with the West of Scotland Horticultural Association's Exhibition, in St. Andrew's Hall, Glasgow. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 7th and 8th.—Honey Show at Birkenhead, in connexion with the Wirral and Birkenhead Agricultural Society. For schedules apply A. H. Edwardson, Secretary, 28 Hamilton Street, Birkenhead.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 19th.—Honey Show, &c., in connexion with the North Lonsdale Agricultural Society at Ulverston, under the Lancashire and Cheshire B.K.A. rules. Prizes value 6*l.* 6*s.* 6*d.* Entries close September 7th. Schedules from Nelson Wearing, Hon. Sec., Ellers, Ulverston.

September 23rd. — Roxburghshire B.K.A. annual show of bees, honey, and appliances, in the Corn Exchange, Jedburgh. Twenty-four classes, including seventeen for honey. For schedules apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. For schedules apply W. C. Young, Secretary, Dairy Farmers' Association, 191 Fleet Street, London. Entries close September 11th.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

Thomas Adam (Cumberland).—1. If a condemned lot of bees with young queen could be had, they might with advantage be united to the queenless stock. If this course is decided on, move the hive a yard or two away, shake the queenless bees from their combs, and allow them to run into an empty skep placed on their old stand and propped up on one side. When all have entered, replace the beeless combs in the hive, and set it in its original position. Next, throw the condemned bees out in front and let them take possession of the comb, and when about two-thirds have entered, shake the queenless bees from the skep on to them, when all will enter quietly. 2. You will get the required information on Ligurian bees by referring to advertising columns of *B.J.* for 24th inst.

T. A. Hornsey.—The bees are suffering from foul brood, hence the failure to gather surplus. The fact of your having extracted the honey from a diseased lot of bees, and of your being quite inexperienced, makes it difficult for us to advise as to the best course to adopt. It would, we think, be a good thing for you to join the County Association, and so get the advice and help of an expert who could inspect your hive.

Country Doctor (Newark).—The queen sent is evidently an aged one, probably about three years old; but this is in a measure guesswork, as we have but the ragged wings and general appearance to guide us in forming an opinion.

J. Barry.—It is only by some predominating characteristic in the flavour of honey that the probable source from whence it is gathered can be named. Your sample is peculiar, but has no predominating flavour, and we cannot name the flower it comes from. Our *impression* is that there are kidney beans in flower in the neighbourhood, and it is partly from that plant.

John Houlden.—Honey sent is a very good sample from white clover. It has a slight "tack," which we rather like than otherwise.

Salopian.—Bees are fairly well-marked Carniolans.

J. J. W. R.—*Sugar for Bee Food.*—Brown Demerara sugar is not suitable for making syrup for bee-food. The crystallised Demerara (yellow) answers admirably for spring food, but for autumn *white* crystal sugar should be used.

Adolf Wahle.—By applying to dealers advertising in our columns you will get what you require. We do not deal nor are we in any way interested in the manufacture of articles connected with bee-keeping.

THE

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Editorial, Notices, &c.

DO BEES GATHER POISONOUS HONEY?

We are occasionally called upon to undertake the duty of dealing with some of the absurd things which at regular intervals appear in the press anent our special *protégé*, the honey-bee. A moment's reflection will make it clear that there is less of egotism than appears on the surface in our assuming, with more or less assurance, this task of dealing "properly"—to quote the correspondent referred to below—with such matters, because if there is one commonplace subject about which almost nothing is known by the ordinary writer for the press, it is that of bee-keeping. Consequently, statements of the most extraordinary nature appear concerning bees, sometimes inducing a laugh among those who "know," but not seldom provoking the bee-man to righteous wrath when his hobby is assailed unjustly.

Not that the bee-keeper need fear the fullest publicity for anything that may be truthfully said regarding bees and their ways, but it is quite curious to note what an unaccountable fascination there is for a certain class of editors in a sensational paragraph of "Death from the sting of a bee," or the relation of some "terrible disaster" with which bees are supposed to be in some way connected. Such paragraphs have, to use an expressive, if vulgar, press-phrase, "fat" in them, and, in consequence of this "fat"—coupled with the fascination aforesaid—no trouble whatever is taken to verify the statements made, and the poor bee is maligned accordingly. We are enabled to gauge pretty accurately the amount of feeling aroused among bee-keepers when an unusually "strong bit" appears in the papers, by the number of duplicate "cuttings" sent by correspondents. The same paragraph also frequently comes to hand cut from different journals and newspapers, for once the ball is set rolling it goes "the round of the press" in quite merry fashion. Whether the statements are feasible and likely to be true, or are obviously absurd and incorrect, seems to make no difference whatever, so long as there is in them something sufficiently interesting to catch the attention of the general reader.

Without desiring that these remarks should in any way be considered as applicable to the case in point, we are led to make them in consequence of a paragraph which appeared recently in the columns of our esteemed contemporary the *Co-operative News*, a paper widely read by co-operators, among whom we are proud to include many bee-keepers and readers. The paragraph referred to has been sent to us by several correspondents, one of them a gentleman of position and influence, who takes considerable interest not only in bee-keeping, but in the progress of co-operation; and another the secretary of an Industrial and Co-operative Society. The latter writes under date August 28th:—

"Sir,—I have cut the enclosed out of last week's *Co-operative News*, and shall be glad if you will deal with it *properly* in your next issue. It is most damaging to the cause I have at heart, viz., the extension of bee-keeping."

Then follows the cutting referred to, which reads as follows:—

"'Lily White' sends the following interesting remarks on bees and honey, in connexion with her recent essay:—

"There are certain plants which produce flowers which make not only poisonous honey but also poisonous wax. Cases often occur of persons being made ill after eating honey, and the cause is sometimes attributed to indigestion, but more frequently the reason is found in the honey itself, the bees having fed upon poisonous flowers. In some parts of South America there are flowers which produce honey-wax of a bluish-green colour, and it is said that both the

honey and wax are more poisonous than the same quantity of arsenic. Bees must suck three million and a half flowers to gather a pound of honey."

Not having seen "Lily White's" "recent essay"—presumably on bees—we cannot appreciate the relevancy, if there is any, between it and the "interesting remarks" quoted above, but the natural inference is that the essay is in some measure hostile to bee-keeping or to honey-production in this country. Either this is so or the authoress is a very "candid friend" indeed, judging by what appears above. The real matter for regret, however, lies in the fact that writers will go out of their way to produce alarmist paragraphs of this kind, having but the slightest foundation of fact on which to build up quite a lot of fiction, and chiefly remarkable for absurd exaggeration.

We have no hesitation in saying that there is as little danger of "persons being made ill after eating honey" in this country as there is from partaking of any of the common necessaries of life. Mankind is so variously constituted that one cannot take flesh food, but will thrive on a diet almost wholly consisting of fruit, vegetables, and nuts, the eating of which would be the death of another! Some persons are made ill by taking milk, or cheese, others by pastry. Some, again, cannot do with ripe fruit, mushrooms, and so on. But what does all this mean? Simply that what agrees with one disagrees with another, and that the diet of each must be regulated accordingly. The adage says, "One man's meat is another man's poison," and to talk of or even inferentially suggest a risk of persons taking harm from eating honey which *may* be poisonous, is not only misleading but absurd, besides being, as stated by our correspondent, "most damaging to the cause we have at heart."

We have read of certain plants in remote corners of the world yielding poisonous honey just as we have of the deadly *upas-tree* of Java, but what possible analogy is there between such unaccountable curiosities of nature and the production and consumption of British honey? We make the assertion without any fear of its being controverted, that the honey passing into the hands of consumers here is as little poisonous as the water they drink, and nothing but mischief can arise by noising abroad and laying stress on the fact of there being flowers somewhere in the world which produce honey and wax "said" to be "more poisonous than arsenic!" As a matter of fact we in this country are just as likely to be troubled with such honey as we are to have the *upas-tree* planted in our midst!

If "Lily White" had confined her "interesting remarks" to repeating the amusing fable concerning the millions of flowers a bee sucks to gather a pound of honey, no one would have complained, but the publication of such paragraphs as that quoted are calculated to prejudice the minds of unthinking or inexperienced persons against a pursuit and a home product in which a large amount of public interest is just now being aroused; a pursuit, moreover, to which many influential public men attach considerable importance as being destined ere long to occupy a prominent position among the minor industries of the country.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

	£	s.	d.
Amount already acknowledged ...	42	1	0
Wellwisher	0	10	0
J. H. New	0	5	0
J. Cotterill (Bowdon)	0	5	0
J. Dann (Wisbech) ...	0	5	0

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

Shrewsbury Show.

This great popular event took place on Wednesday and Thursday, the 23rd and 24th of August, and passed off with great success.

The energy and enthusiasm of the bee-keeping fraternity of Shropshire have carried their Association to the very foremost position in the quality, extent, and variety of the county shows; but what they have done in the past has been quite eclipsed by the extraordinarily fine display on this occasion, no less than 4000 pounds of honey being staged. That there was a considerable proportion of dark honey no one will be surprised to hear; but, viewing the display as a whole, the effect was highly pleasing, and it was distinctly apparent that the light-coloured honey, for which the county is famed, largely predominated. For the first time the raised method of staging was adopted, and the great improvement which it effected was very striking. The task of judging devolved upon the Rev. J. F. Buckler, Mr. W. Lees M'Clure, and Mr. Jesse Garratt; the post of lecturer

being efficiently occupied by Mr. W. P. Meadows, of Syston, near Leicester.

That the Shropshire Association is fulfilling its mission of raising bee-keeping to a practical pursuit the evidence of such an exhibition amply testifies, and any report of such would fall short of its object if it failed to bring into prominent notice the remarkable capacity of the Hon. Secretary and her staff of co-workers in organizing and arranging so important a show with such complete success. The spirit, too, which animates the members of the Association cannot be overlooked, in regard to which it is only necessary to state that as many as thirty-three entries were made in classes in which forty-eight sections or jars of honey competed. This speaks for itself.

The only drawback to which attention need be drawn is that of the absence of the bee-tent, and the consequent loss of opportunity to bring under notice the ease with which the bees may be controlled and handled. Through some slight accident on a remote occasion, the managers of the show have allowed the prejudice then created to bar the way to any concession.

During the afternoon on the first day, a meeting of the Northern District Committee of the British Bee-keepers' Association was held, under the presidency of the Rev. J. F. Buckler, the main subject of discussion being the question of providing judges and examiners at county shows. The subject was ably opened by Mr. Pugh, of the Notts B.K.A., directing attention to the need that existed of appointing a larger number ef capable judges in many of the districts. This was admitted by subsequent speakers, and the view was adopted generally that the want could be best supplied by the County Associations putting forward suitable persons to receive guidance and experience by being linked with the present recognised judges. This recommendation it was decided to send up to the Committee of the central Association. The meeting terminated with a very hearty vote of thanks to Miss Eyton for all her kind efforts in promoting the success of the occasion; and to Mr. Buckler, for his able presidency of the meeting.

Prize List.

Honey Classes (open).

Forty-eight 1-lb. sections.—1st prize, T. R. Horton; 2nd, F. Carver.

Twelve 1-lb. sections.—1st,—Simpson; commended, J. T. Nickels.

Forty-eight 1-lb. jars extracted honey.—1st, W. P. Meadows; 2nd, E. Oakes; 3rd, J. T. Nickels; com., T. R. Horton and J. Palmer.

Twenty-four 1-lb. jars extracted honey.—1st, W. P. Meadows; 2nd, H. Bennion; 3rd (extra), J. T. Nickels; 4th (extra), E. Oakes; h.c., E. Clowes; com., H. Wood and Collier.

Twenty-four 1-lb. jars granulated honey.—1st, J. Palmer; 2nd, — Carpenter.

For the best collection of extracted honey from different flowers, samples of each labelled.—1st, A. Beale; 2nd, — Bollins.

Members of Shropshire Association only.

Forty-eight 1-lb. sections.—1st, T. R. Horton: 2nd, — Cartwright.

Twelve 1-lb. sections.—1st, J. Jones; 2nd, J. Palmer; commended, T. R. Horton.

One 1-lb. section.—1st, P. Jones; 2nd, J. Bradley.

Forty-eight 1-lb. jars extracted honey.—1st, J. Palmer: 2nd, — Cartwright; commended, B. G. Brocklehurst and — Critchlow.

Twenty-four 1-lb. jars extracted honey.—1st, J. T. Nickels; 2nd, T. C. Clark; 3rd (extra), — Hirchsman; h.c., E. Griffiths.

Twenty-four pounds dark extracted honey.—1st, T. Norris; 2nd, H. Wood.

Novelty in honey.—1st, — Critchlow.

Best and most attractive display of honey.—1st, J. Bradley; 2nd, — Bunnay; h.c., H. Wood.

Artisans' Classes.

Twenty-four pounds comb honey.—1st, E. Griffiths; 2nd, P. Jones.

Twelve 1-lb. sections.—1st, P. Jones; 2nd, — Carpenter.

Twenty-four pounds extracted honey.—1st, — Croxton; 2nd, — Bullock; h.c., T. C. Clark; commended, S. Pritchard and — Hill.

Best super.—1st, A. Beale.

Cottagers' Class.

Twelve pounds comb honey.—1st, J. Hammonds; 2nd, J. S. Croxton.

Twelve pounds extracted honey.—1st, — Croxton; 2nd, G. Lloyd; commended, J. Ward and R. Gough.

Six 1-lb. sections.—1st, J. Hammonds; 2nd, J. S. Croxton; 3rd, G. Croxton; commended, E. Griffiths.

Six pounds extracted honey.—1st, J. Ward, 2nd, E. Griffiths; 3rd, — Mainwaring; commended, G. Lloyd.

Bee-flowers.—1st, A. Beale; 2nd, J. Bradley; 3rd, G. Lloyd.

Bee-flowers (cottagers only).—1st, G. Lloyd.

Honey beverage.—1st, J. Bradley; h.c., A. Beale.

Fruit preserved in honey.—1st, — Mainwaring; h.c., J. Manning; commended, G. Lloyd.

Honey cake.—1st, Mrs. Nickels; extra prize, Mrs. White; h.c., Mrs. Beale and Mrs. Lloyd; commended, Mrs. Manning.

Two pounds beeswax (Salop only).—1st, A. Beale; h.c., T. R. Horton and J. Nickels.

Hives and Appliances (open).

Frame hive, price not to exceed 15*s*.—1st, — Oliver; 2nd, F. Carver.

Frame hive, price unlimited.—1st, F. Carver; 2nd, W. P. Meadows.

Frame hive (Shropshire makers only).—1st, Carver.

Collection of appliances.—1st, W. P. Meadows.

Best Feeder.—1st, W. P. Meadows.

New Invention.—1st (and two h.c.'s), W. P. Meadows; h.c., F. Carver.

One pound brood foundation.—1st, A. Beale.

One pound super foundation.—1st, J. T. Nickels.

Soft bee-candy.—1st, F. Carver.

Observatory hive and bees (Salop only).—1st, A. Beale.

The fine collections of lantern slides, published respectively by Messrs. Newton, of London, and Mr. A. Watkins, Hereford, were on view in the lecture tent during the show.

HONEY SHOW AT CASTLE DOUGLAS.

The annual show of the Castle Douglas Horticultural and Honey Society took place on the 31st ult., and was a very pronounced success. The fact of the show being held in the Town Hall buildings quite removed any discomfort which might have been felt from the rain—which unfortunately fell during the greater part of the afternoon—had no further protection been afforded to visitors than the usual canvas tents used on such occasions.

The honey department was a distinct feature of the show, and formed an exhibition in itself. As in former years, all the classes were open, and upwards of 120 competitors came forward, being the largest collection ever held under the auspices of the Society, and, in the opinion of experts, the quality has never been surpassed. This remark applies more particularly to run honey, which could scarcely be excelled. The principal class, that for three 1-lb. jars of run or extracted honey, other than heather, drew no less than fifty competitors.

The Rev. J. B. Robertson, Leswalt, Stranraer, as judge, made the following awards:—

Three 1-lb. jars of extracted honey.—1st, Wm. Blackwood, Castle Douglas; 2nd, D. W. H. Arbuckle, Thorne, Doncaster; 3rd, Wm. Hogg, Castle Douglas; h.c., W. Wilson, Dumfries; com., J. M'Donald, Kingussie.

Six 1-lb. sections.—1st, Jas. Learmont, Balmaghie; 2nd, J. M'C. Bell, Castle Douglas; 3rd, Wm. Blackwood; h.c., Jas. M'Minn, Potterland Mill; com., James Wallace, Castle Douglas.

Best super.—1st, Jas. Learmont; 2nd, Wm. Hogg; h.c., Miss Hogg, Castle Douglas; com., John M'Donald, Lochfoot.

Best super under 12 lbs.—1st, W. Hogg; 2nd, W. H. M'Dowall, Kirkcowan; h.c., W. M'Millan, Dundrennan.

Scotch pint heather honey.—1st, W. H. M'Dowall; 2nd, A. Muir, Kirkcowan; h.c., J. M'Donald; com., Ross & Kerr, Dumfries.

Six 2-lb. jars extracted honey.—1st, W. Blackwood; 2nd, W. Hogg; h.c., S. M'Murray, Gelston; com., Ross & Kerr.

Six 1-lb. jars extracted honey.—1st, W. Blackwood; 2nd, W. Hogg; 3rd, J. Learmont; com., A. L. Cumming, Laurieston.

Three 1-lb. sections heather honey.—1st, A. Muir; 2nd, Ross & Kerr; h.c., T. Duff; com., W. H. M'Dowall.

Three 1-lb. sections.—1st, W. Rogerson; 2nd, T. Myers; h.c., Thos. Duff; com., R. M'Gowan.

Three 1-lb. jars.—1st, W. Rae, Dalbeattie; 2nd, R. Turner, Chapelyard; h.c., T. Lindsay, Kirkcowan; com., T. Myers.

GOOLE AND DISTRICT B.K.A.

The annual show of this Association was held in connexion with that of the Goole and District Horticultural Society, in the Victoria Pleasure Grounds, Goole, on August 17th, and was favoured with splendid weather.

During the afternoon Mr. J. H. Howard, of Holme, delivered lectures on bee-keeping, and illustrated his remarks by practical manipulations of a frame hive, which proved one of the attractions of the show. Mr. Howard also undertook the duties of judge, and his awards were received with general satisfaction.

With regard to the exhibits, the classes for extracted honey were well filled, and some excellent samples of honey were staged. The comb honey was not so good, but the winners were well to the fore.

The prizes in the open classes were given by the Horticultural Society, whilst the Committee of the Goole B.K.A. offered prizes for members only.

Awards.

Observatory hive stocked with bees and queen.—1st prize, Chester & Woodhead, Goole; 2nd, E. Wainman, Saltmarshe Crossings, Howden.

Six 1-lb. sections.—1st, W. Dixon, Leeds; 2nd, W. Smith; extra prize, Chester & Woodhead.

Twelve 1-lb. jars of extracted honey.—1st, Chester & Woodhead; 2nd, Miss H. Laurence, Clithero House, Leeds; extra prize, Dr. Arbuckle, Thorne.

Most interesting and instructive exhibit.—1st, W. Dixon; 2nd, Chester & Woodhead.

Two frames of comb honey for extracting.—1st, W. Dixon; 2nd, Mrs. Remmer, Knedlington, Howden.

Members Only.

Six 1-lb. sections.—1st, Chester & Woodhead; 2nd, Dr. Arbuckle.

Six 1-lb. jars of extracted honey.—1st, Dr. Arbuckle; 2nd, W. Lambert.

Super of comb honey, not sectional.—1st, Chester & Woodhead; 2nd, G. Roberts, Goole.

Two 1-lb. sections and 1-lb. bottles of extracted honey.—1st, Mrs. Remmer; 2nd, W. Aaron, Hull.

A VISIT TO A COTTAGE APIARY AT OVER TABLEY.

It was a fine summer evening last month, and after a long walk I stood for a time, on my homeward journey, to admire the pretty little

church and churchyard of St. Paul's, Over Tabley. Adjoining the churchyard is the house of the sexton, Mr. John Houlden, who has become quite an expert in the keeping of bees; and at his invitation I stepped into his garden to have a few minutes' chat about the little workers, who in our infantile days were set before us as examples to "improve the shining hour." All down the garden, like a band of Indian warriors in single file, were arranged the hives. I counted fifteen of them. "Well, Mr. Houlden, and how have you done with your honey this year?" "Remarkably well," he replied. "I have extracted about four hundredweight altogether. Certainly, some of the hives were particularly heavy. Last year I had only seven hives, and it was a very poor season." "I don't see many straw hives," I remarked. "No, I do not generally use them. They are very good for a purpose, but not for honey-producing. I make all my hives, and I have made my text-book the *British Bee Journal*. I started some few years ago with one hive, a prize given by the Hon. Mrs. Keane, of Mere Hall, who also engaged a bee-expert to explain to her cottagers the remunerative and interesting work of bee-farming. After the lessons I took a great interest in the science, and with my own hive determined to have a try. Some years I did better and some I did worse, but gradually increased my stock of houses, till now I have, as you see, fifteen of them." "And do you think," I asked, "that generally speaking, bee-keeping is a paying hobby?" "Most decidedly. I think that every cottager in the country should keep his beehives. Of course a certain amount of perseverance is required, and failures now and then happen; but the cottager is well repaid for his trouble, not only in a monetary sense, but also in having a healthy recreation for his spare time, which in the country often hangs so heavily. But come inside, sir, for a few minutes, and see the result of my busy little workers' labours." I accepted the invitation, and passing at a respectful distance the long row of hives, I made my way into the house. All around the room were arranged pots and pots of honey, some large, some small. In the corner stood a pile of the little sections filled with the delicious honey. "These," remarked my guide, "I keep for those of my customers who prefer the honey in the comb." I noticed a very large tin filled with honey, and suspecting that it was heavier even than it looked I asked what weight it contained. "Try to lift it, sir," was the somewhat sarcastic invitation. I did try, but, not being a Sandow, I failed, for the tin contained two hundredweight of honey. As I looked round the room, I thought what a veritable Paradise it would prove were a score or so of youngsters turned loose into it. Mr. Houlden informed me that he is not content "to leave well alone," but still hopes to improve his honey harvest year by year. He is about to adopt the "Wells system," that of keeping two queens in each hive, and is very sanguine as to the results. After sampling the honey, and, like Oliver Twist, asking for more, I bid good-bye to my obliging friend and his very successful cottage apiary.—*Knutsford Guardian.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1541.] We are wanting rain almost as badly as in the long drought of early spring and summer. The crops are languishing from lack of moisture, and the grass plant, from which the bulk of our next year's harvest of honey will be gathered, is losing stock instead of gaining, the small spindling plants not having sufficient foothold of the soil to withstand the drought. After the rain the seed germinated, and we looked forward to a fair crop, but under present conditions the prospect for next hay and honey crops is not encouraging to either farmer or bee-keeper.

The fine weather is acceptable to bee-keepers who are driving, or contemplating driving, bees from the straw skeps of their neighbours the cottagers, and I would advise them that what they intend to do in that line to do quickly, and to feed up rapidly, so that stocks may get their stores sealed over. The warm weather is conducive to wax-secretion, and I have no doubt that wax is secreted at a cheaper rate during warm weather than during cold weather, though I do not remember having seen any notice of the thing being tested. When I say "cheaper rate," I mean that bees would secrete a larger amount of wax from a given lot of food in a warm temperature than they would from the same quantity of food in a cold temperature; and, again, better work in comb-building will be done by bees during warm weather than when colder. This is another gain for prompt action. Also, the bees now in populous colonies are living on their stores, except in the few places where special forage happens to engage their attention, therefore it is to the advantage of the owner of condemned bees to have them taken up without delay.

I was sorry to see, by 1522, that our respected correspondent, "J. G. K.," has not secured any harvest of super honey this season. The Bogenstülper was a ticklish job, I think. I should

transfer them to a bar-frame hive that one can manipulate with ease. The "honey-dew," as observed by "J. G. K." dropping from the hives, without the usual accompanying green fly, is remarkable and bears out the contention of old bee-keepers that, in hot seasons, they have seen drops of honey-dew on black currant-tree leaves and on the limes and sycamores. These assertions we have discredited, but here we have a case in which a microscopical examination failed to find the green fly. I myself this season noticed drops of honey-dew which were dried into a crystalline state, and no appearance of green fly on the leaves, but I did not investigate the matter, as I thought probably the fly was on the under-side of leaves higher up the tree, out of my reach, and that the honey-dew had dropped down on the leaves below and dried up into the crystalline state in which I noticed it.

There is no royal road to queen-catching, so far as I know. Some are quicker sighted than others; again, years of practice and observation will certainly help the bee-keeper in spotting the queen. If a hive is opened quietly when the bees in the apiary are quiet, and the dummy removed gently, using but little smoke, the queen will generally be found on one of the centre combs. My hives are principally on the combination principle (I would they all were), and, after the dummy is removed, I can bring my back frames to rear of hives, the hive roof opening at the front. Now, after giving a casual glance over the combs as drawn back, and then, say, after the first two frames are removed, I begin looking for queen and eggs. If I see a few new-laid ones, I conclude the queen is near, and generally find her. Very little smoke should be used when finding the queen; if much smoke is used, the colony is broken up into units, each seeking individual security, and the queen is in as great a panic as her subjects, and eagerly rushes into any corner of the hive or pophole in the combs. Opening hives must be done when the apiary is quiet or before work is started in the morning. The early evening is the best time, and, with a moderate-sized apiary, the work can soon be got through. I should advise that hives be cleaned of any *débris* at the bottom, and the top bars of frames be scraped, the condition of food and colony be ascertained, and wants attended to during September, and, as a final touch, drop three or four pieces of naphthaline into each colony when packing up for winter. Antiseptic quilts of latus felt may be given for winter and may prove useful as a preventive of infection; but wraps will be required above the felt, or a chaff cushion. My chaff cushions are veritable chaff pillows. The bag to contain the chaff—preferable wheat chaff—is made of *washed* unbleached calico, and wide enough to cover the frames comfortably, and long enough to hang down behind the *packed* dummy to the floor of the hive in my combination hives. I firmly believe in warmth for bees during the winter months. Heat is life, and cold is death to bees; therefore, whatever conserves the heat of the colony prolongs bee-life to its natural term.

Examine your hives for proof that each contains a queen. A queen when seen, eggs in regular patches, or patches of brood, are proof that all is well; if no brood and no eggs are to be found in the combs, and the bees show full at entrance, the hive is queenless, and should be dealt with at once, or robbers will soon make a clearance. A good driven lot of bees with young queen may be added to the remaining bees at nightfall, with a sprinkling of flour on both the old bees and the bees you intend to add, and as soon as they are got in between the frames a carbolised cloth will expedite matters. Replace the quilt and wraps, contract the entrance to an inch, and all will settle down amicably together. Feed gently a little food every night for a week to start breeding, or, if hive is glutted, extract a comb or two, but give only one comb per night to clean up. This will warm them up to breeding, and the extracted combs in centre will be good clear places for some good patches of brood.—W. Woodley, *World's End, Newbury.*

SOME BEE-NOTES FROM HEREFORD.

[1542.] The season here has been good. I've been surprised to find how it has varied in the south; during a fortnight in June honey flowed in in immense quantities, and hives were boiling over. I am within a mile from the city, yet my bees did good work, and my best hive gave me seventy pounds of run honey. By-the-by, the article entitled "Pulled Queens," (page 399), reminds me that this hive is headed by one. Two seasons ago it swarmed, and, to prevent a second (or cast), I cut out all queen-cells but one. On examining these afterwards, a fine young queen escaped, and ran up my coat; a paper cup was promptly turned, and her majesty safely enclosed. I then returned to the hive, and cut away the remaining queen-cell, and introduced this new queen; it was a success, for she has proved herself to be most prolific. Strange to say, they tried to swarm some days afterwards, coming out and settling about noon; but, having no queen, they returned about tea-time in grand style. Cone escapes in roof I've found A 1; but for taking honey generally I shall never use anything again but the carbolised cloth. Besides my own bees, I took for a friend sixty lovely sections from three hives—no stings and no cappings spoilt; all those who have not seen it before agree it is far better than that horrid smoke.

Two of my hives were "hanging out," ten days ago, from the excessive heat. Wasps have been fearful lately; I took three nests in July. Fortunately, I got all honey extracted before they became numerous.

Thanks to your *Journal* (which I've taken now for three years), I have been very successful, and during that time have had no difficulty in disposing of my honey, and at an average

price of 9*d.* per pound. I always run short—could sell as much again if I had it. However, I must not increase my stocks, as I should not have enough spare time to give proper attention; but for the five I have I try to remain—SEMPER PARATUS, *Hereford.*

SELF-HIVERS.

[1543.] You will, perhaps, remember my asking you last spring if a self-hiver should automatically *prevent* the queen from returning to the hive, and you kindly answered through the *Journal*, "Yes." So I made four hivers to do so, and this season fixed on frame hives, and bought a strong stock of bees in a skep to try the hiver on straw hives, as they fit almost any hive or entrance. It does not take five minutes to apply one to most hives. But fate has been against me in this particular, for, with twenty stocks, I have not had a single swarm. (I have only heard of five swarms in this neighbourhood, four of which at once flew away.) But I have had a nice lot of honey, most from the three frame hives with "hivers" on; but whether that resulted from the drones being prevented from returning home to supper or not, I do not know; at any rate some of the more populous hives have not stored so much.

I feel greatly disappointed at not having a few swarms to test the hiver thoroughly, but feel more confident than ever that it will prove useful, for while it offers scarcely any hindrance to the worker it takes charge of anything bigger passing out. Not one bee in a hundred squeezes through the excluder zinc to get into the hive. Would you advise another season's trial before making it for sale?

I use a super-clearer on the same principle, by which the bees can leave forty-eight abreast, without any possibility of return. My supers are often cleared in less than an hour.—G. W. H.

[We strongly advise a thorough trial before making the hiver for sale.—EDS.]

AMONG THE BEES IN IRELAND.

[1544.] I have just returned from a round of visits to apiaries in the south-west of Cork, and am sorry to report that the season has not been a good one in that district. Accompanied by a member of the Irish B.K.A., we drove through the pretty village of Leap, at the head of one of the inlets on the southern coast. I would gladly pause to pay a tribute to the beauties of the drive through Myrnswood—a Glengarriff in miniature—but this is to be an echo from the *hives*, not the *woods*. The complaint of the fair proprietress of this the first apiary inspected was that though she had three or four swarms, she had not secured much honey, none of her hives yielding so much as twenty pounds, partly owing, no doubt, to the fact that, in supering, a warm quilt, with but a small square hole in centre, was placed *between* the frame tops and the supers. She showed us a stock in a skep into which she had introduced a Carniolan queen, and is convinced that a bad queen was at the time in the hive, as she found what she believed to be the old queen next day outside the hive. In transferring this stock into a "Wells" hive, I found the comb quite covered with brood, which I tied into frames. In doing so I noticed two, and in some cells three and four eggs, together. Is this usual with queens of that tribe? [Not more so than with others.—EDS.] She was the first I had seen, and I should not have distinguished her from a native, save that the ventral plates of the abdomen were something brighter. And here let me ask, Will a Carniolan and a native stock do well in a "Wells" hive? [Yes.—EDS.]—for that is how they stand at present.

That love of novelty in human kind is remarkable, was a conviction that was forced on me when shown a hive just received from England. It was a square hive outside, but the inside was *octagonal*, containing about four frames (not standard size), and two top bars or *laths* without sides or bottom; the corners were boarded off, and in one was a feeding-bottle. I did not ask the price, for it would not suit me at any figure. Why will appliance-makers turn out hives that will not carry standard frames? The spaces between the frames and the hive edges (about three and a half inches) on either side were intended, I suppose, to gratify the bees' desire to build excentric combs in.

We next visited a parson's bees, and if care and skill could command success, he should have it; but honey was not plentiful here either. I fancy his stocks were so run down in condition last winter that they could not be got into form in time for what honey-flow there was. Here, too, was a "Wells" hive, but no swarms to stock it. I noted how very warmly his crates were wrapped in thick felt, which had the good effect of making the bees draw out and fill the outside sections as well as the centre ones. We were next taken to see a stock he was transferring from a skep into a bar-frame hive on the plan of setting the skep on top of the frames, as so often described in your *Journal*. The queen being down on the frames, an adapting-board was placed on the hive, and the skep laid on it, the corners being closely packed with willow clay; round the skep was a lift, and over all a well-fitting roof. After a hospitable repast and a pleasant bee-chat, we took "an Irish short cut" home, so as to take in some other "bee-yards." In one we found a goodly lot of bar-frame hives, with a "Wells" as a citadel in the centre. The bee-keeper might be justly styled an elder in the craft, but he differed with Mr. Wells on the matter of entrances, of which he had only a narrow pair in front, and his dummy was a substantial half-inch one with *broad* top bar. He was also fortunate in the knowledge of how to extirpate foul brood out of his apiary. Two more visits to cottagers, one of whom evidently had *not* that care, and whose bees had unmistakable evidence of foul brood, brought a very pleasant drive to a close.

Generally speaking, the country seems well adapted for bee-culture, having both white clover and heather, the latter in great abundance and growing in high altitudes. Apologising for this overgrown "echo" (which might be more correctly called "Notes by the Way") —A MEMBER OF THE I.B.K.A., *August 22nd.*

THE HONEY HARVEST IN DURHAM.

[1545.] We started the season with one skep and six frame hives. The skep alone swarmed, and from it we have taken two bell-glasses. From the six frame hives, one of which—a last year's cast—was only in good condition by the middle of July, we took about 210 pounds of clover honey. They were then taken up to the moors, and a fortnight ago we took about 190 pounds of moor honey, giving so far about 400 pounds, so that we hope for an average of over 70 pounds from the frame hives.

From one hive kept in Durham itself we have so far extracted about 70 pounds, without touching the brood nest, which consists of 20 frames, so that we ought to raise the total to 100 pounds. The heather was at its best during the hot weather a fortnight ago, so it will, I am afraid, not last very much longer.—L. W. H., *Durham.*

CANE FOR STRAW SKEPS.

[1546.] I write to ask a favour of you, viz., that you will be kind enough to insert an inquiry in your paper as to where cane can be procured at a moderate price suitable for using in making straw skeps. I am much interested in getting work for a poor and greatly afflicted man, who is both totally blind and perfectly deaf. The blindness was caused by an accident, and the deafness the results of influenza, and of late I have succeeded in getting orders for skeps, which, with straw kneeling mats and coarse basket-work, is all he can do, and he is dependent on his work for his livelihood, and his difficulty is to find the proper cane for binding the skeps. If in any way you can help him in this matter, it will be a great obligation. —(Mrs.) J. WILSON, *Greenfields, The Park, Cheltenham, September 1st.*

[The above will, we trust, secure the desired information from some of our readers.—EDS.]

IRISH BEE-KEEPERS ASSOCIATION.

The Committee met on the 8th ult. Present: Rev. Canon Sadleir (in the chair), Mr. O'Bryen, and the Hon. Secretaries, Mr. Read and Mr. Chenevix.

The Committee accepted an offer from Mr. O'Bryen to visit apiaries in a portion of county Cork, availing himself of assistance kindly promised by a lady in the district.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

August, 1893.

Rainfall, 1·10 in.	Brightest day, 9th, 13·35 hrs.
Heaviest fall, ·46 in. on 4th.	Sunless days, 1.
Rain fell on 9 days.	Above aver. 38·3 hrs.
Below average, 1·57.	Mean max., 69·5°.
Max. temp., 79° on 17th.	Mean min., 53·8°.
Min. temp., 42° on 29th.	Mean temp., 61·8°.
Sunshine 268·9 hrs.	Max. barometer, 30·40 on 25th.
	Min. barometer, 29·76 on 21st.

L. B. BIRKETT.

SOLDIERS ROUTED BY A SWARM OF BEES.

A remarkable incident is thus described in the *Daily News* of the 3rd ult.:—"The following detailed account of an expedition through East Africa, under the command of Freiherr von Monteuffel, has reached Berlin. In Kwaruguru, where the Sultan Lonjo has been appointed Vali by the Germans, three insurgent chiefs who refused to recognise German rule and organized forays, were to be tried. Two submitted, but the third, Matura, from Pongwe, had to be forced to submission. The head of the troops reached Nime, a thousand metres from Pongwe, upon which the guns were planted. A number of people were seen in front of the village beating the war-drums amidst howls and yells, and several shots were fired by them. Hereupon the Commander gave orders for the village to be bombarded with granades. After the fourth shot a remarkable incident took place. The troops as well as the bearers were attacked by a gigantic swarm of bees, and completely routed. It took about an hour for them all to collect together again, Sergeant-Major Mittelstaedt and an Ascari being missing. The guns and ammunition had been left behind on the mountain. A patrol was sent out to search for the sergeant, and he was found at his gun nearly stung to death. An hour afterwards, when the sergeant had recovered, the fight was resumed and the village stormed. The effect of the granades had so frightened the enemy that the village was completely deserted. As the people of Pongwe had offered armed resistance, and escaped punishment by flight, the only way to deal with them was to destroy their village."

Queries and Replies.

[879.] *"Virgin" Swarms.*—There having been two or three of above in this locality this season, the question of which queen comes off, or heads "a virgin swarm," was discussed a few days ago; some diversity of opinion was expressed on the point. Will you kindly answer the question through columns of *B.B.J.*? One gentleman who favoured the young queen

theory, said, if it is not the young queen, why is it called a "virgin swarm?"—JOHN ARMSTRONG, *Haltwhistle, August 29th.*

REPLY.—We have always considered the term "virgin swarm," to be somewhat of a misnomer, apt to mislead in the direction referred to, because it really means no more than a swarm *from* a swarm of the current year. Anyway, experienced bee-keepers generally agree that such swarms are always led off by the old queen. And this agreement is the outcome of practical observation.

[880.] *Re-queening.*—Having a hive which has become weak through loss of queen, I have just introduced a fertile queen. Would it be advisable to place this hive on the stand of a very strong stock from which I intend taking sections next week, in order to strengthen the weak stock by the flying bees of the strong one? Would there be any danger to the newly introduced queen by this arrangement?—B., *Co. Galway.*

REPLY.—We should not advise depriving the strong stock of its bees to help the weak one. Beyond the risk of the strange bees "balling" the queen, there is that of perhaps inflicting permanent damage on a good stock to secure a questionable advantage. Could not a lot of condemned bees be got to add to the weak stock? It would be a far better way of assisting it.

[881.] *Moving Bees.*—I am contemplating moving to another house in less than a month, situate about three minutes' walk from my present abode. Kindly advise me the simplest method of removing my bees to this place. If I took the stock to its new station and placed another hive in the old position to accommodate the bees that return to the latter, and then in the evening take them down to the others, and repeat this a few times, is it possible to get them all to remain in their new station after a short period—say, four or five days? But if I can get my neighbour to allow me to leave them in his garden until the winter—until such time as they are kept in the hive, for a fortnight or longer, if possible, then I apprehend that I shall be safe in moving them without further trouble. I certainly do not relish the idea of having to pack them up and send them away a distance of, say, three miles for a fortnight or so. Therefore, if you can recommend the first idea, or something better—anything but the last method mentioned—I shall be extremely obliged.—A. P., *South Woodford.*

REPLY.—The plan of leaving the bees on their present stand till cold weather has kept them indoors for a week or two, is so much the better one that we should adopt no other unless compelled.

[882.] I send a sample of bees herewith which appear to be suffering from some disease. I have examined the hive, but can see no trace of anything wrong. About 100 or 150 bees are cast out of the hive every day. They are hours dying. Most of them lie on their backs and kick with their legs, but do not move their bodies. They appear half as large again as they should be. Three other hives, standing close to them, seem all right. They have brood in all stages, but not a great deal. Can you say what it is that ails them?—E. WOOD, *Balham.*

REPLY.—Beyond the distension of the abdomen, there is no visible signs of ailment in the bees sent. It is quite possible they have partaken of some food which has disagreed with them. Let them have a pound or two of well-made syrup, given warm, and watch the result.

A WARNING.

[To the uninitiated the technical terms of bee-keeping are somewhat trying. The following story is a sad example of the dangers arising from too large a dose of apiarian *technique.*]

Bob Bowman thought he'd keep some bees,
And make a pot of money
By selling swarms, and queens, and things,
And potting lots of honey.

He bought some books and read up hard,
To find out how to start;
They spoke of "sections," "crates," and "quilts,"
And called the game an "art."

"Excluder zinc" and "wooden dummies"
Did send Bob's heart to zero,
While "supers," "runners," "wax-foundations,"
Were too much for our hero.

"A glass of water, Jane, my wife—
Oh, do, my dear, be quick!
I feel so queer, so faint and ill,
Those books have made me sick!"

Our hero's brow was damp and cold,
He sank upon the floor;
His wife, struck mute with grief and fear,
Stood dumb beside the door.

At last she cried, "Oh, dear! oh, dear!
My Bob is dying fast!"
She loosed his collar, coat, and vest,
And saw the danger past.

He ope'd his eyes and looked around,
A vacant stare he gave,
And then he staggered to a chair
(He was too weak to rave).

And when he was himself again,
Bob Bowman without doubt,
He tied those books up in a tape,
And never took them out.

And now he never thinks of bees,
Or making pots of money
By selling swarms, and queens, and things,
And potting lots of honey.

Scarborough. A. C. W.

Bee Shows to Come.

September 7th and 8th.—Honey Show at Birkenhead, in connexion with the Wirral and Birkenhead Agricultural Society. A. H. Edwardson, Secretary, 28 Hamilton Street, Birkenhead.

September 13th and 14th.—Scottish B. K. A. second autumn show of honey and wax, in connexion with that of the Royal Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Schedules from John Wishart, Secretary S. B. K. A., Melrose.

September 19th.—Honey Show, &c., in connexion with the North Lonsdale Agricultural Society at Ulverston, under the Lancashire and Cheshire B.K.A. rules. Prizes value 6*l.* 6*s.* 6*d.* Entries close September 7th. Schedules from Nelson Wearing, Hon. Sec., Ellers, Ulverston.

September 23rd. — Roxburghshire B.K.A. annual show of bees, honey, and appliances, in the Corn Exchange, Jedburgh. Twenty-four classes, including seventeen for honey. For schedules apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. For schedules apply W. C. Young, Secretary, Dairy Farmers' Association, 191 Fleet Street, London. Entries close September 11th.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication. All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** In report of the Bristol B.K.A. show in our issue of August 24th, the name of one of the Hon. Secs., Mr. E. A. S. Cotterell, was in error printed "Potterell."

J. Ball (Derbyshire).—*Live Bees by Post.*—The first intimation we had of your be was a notice from the postal authorities the effect that a box awaited our applicati for it at the Dead-letter Office, "Live bees' being prohibited from passing through the post. After some delay we obtained possession of the box, and found one compartment (marked B) broken and empty. The other one contained dead bees, certainly not pure blacks, as they have an admixture of Carniolan blood. Bees will be carried by parcels post, but in all cases of posting the parcel need not be ostentatiously marked "Live Bees," or sent with perforated ends uncovered, as it causes needless alarm.

B. H.—The "acid flavour" in honey is due to its being a little unripe. It cannot be called dark honey, being a rich golden colour. Its worst fault is lack of flavour, due entirely to the flowers from whence it is gathered.

W. G. Spencer.—There is no disease in the comb sent. "Three grains," of course, means in *weight*, not grains of the substance.

Edwin J. Feild (Bognor).—A few years ago there was a successful Bee Association in Sussex, but from some cause it has ceased to exist. We think it possible that Mr. Alfred Rusbridge, Sidlesham, Chichester, who is an experienced bee-keeper, might advise you if written to. The matter referred to in cutting sent is old news, and we attach but little credence to the theory it propounds as to "holding the breath" giving immunity from bee-stings.

Isaac Crawford (Co. Tyrone).—*Starting a Bee Association.*—Mr. J. Huckle, Secretary of the B.B.K.A., King's Langley, Herts, will supply information with regard to the formation of Bee Associations.

Sheila (Berkhampstead).—*Recipe for Metheglin.*—A good recipe for hydromel—which is the same as metheglin—with full particulars of making, will be found on pp. 196–7 of *B.B.J.* for April 23, 1891. It will be sent from this office for three halfpenny stamps.

Chr. Marks (Kingsbridge). — Bee sent is a worker, not a queen at all.

B. F. (Ireland).—*White Super Foundation.*—Bees have a considerable dislike for working on foundation made from white or bleached wax. They take far more readily to that of pale yellow colour.

W. H. Jenkins.—The sugar seems very suitable for bee-food, equally so with any other pure cane sugar.

A. B. (Parracombe).—If the mischief does not go beyond "symptoms," we should rely on the use of naphthaline for the present, and medicate any food the bees may require later on.

J. Jones (Pinner).—Mead is much the same as metheglin. See reply to "Sheila."

Subscriber (Boyle).—*Foul-broody Bees.*—If your friend will not destroy the bees, you can only get him to feed. Putting the bees on to full sheets of foundation was the best course to pursue under the circumstances, since your friend will not destroy them. Feed with medicated food, and give naphthaline on floor-board.

Northerner (Durham).—*Sections for Showing.*—They should be encased in the glazed boxes sold by dealers, unless the wood is perfectly clean, in which case they look extremely well glazed on both sides, with a narrow edging of lace paper to hold the glass in position. But the "edging" must not extend more than three-eighths of an inch over the surface of the glass.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—For how long the summer is going to last it is not easy to say, but it bids fair to extend over so many months as to puzzle the oldest of us to recall its equal for length of days. Excepting that the nights begin to make one feel that October is drawing near, there has been almost no break in the sunny warmth which has been with us for so long a time past. As a consequence, agricultural, horticultural, and honey shows have, as a rule, been chronicled as great successes. Full opportunity is also being offered to bee-keepers for the very necessary fixing up for winter, which is so helped on by being got through in a fine autumn. We trust that advantage is being taken by our readers of the warmth while it lasts, and that October will find none with feeding still to do.

EARLY GRANULATION OF COMB HONEY.—It adds one more to the many curious characteristics of the season to hear of the rapid granulation of honey in the comb in many places this year. Usually there is no need to give any thought to comb honey stored indoors so long as the weather is warm and September not half over. But this year, so rapidly has granulation taken place that several correspondents have written complaining of sections and extracting combs being spoiled in this way. As a matter of fact, we have ourselves been "caught napping," and it just shows how continually we live to learn, for we have never before in all our experience found combs of honey gathered not more than eight or nine weeks ago granulated quite solid before the close of a hot summer. The brief experience we have had of Kent honey is our only excuse for lack of watchfulness on this point, otherwise we should have to admit being rightly served. And so to correspondents equally unfortunate—who ask what is to be done under the circumstances—we can but recommend the course we purpose following, viz., to melt down the combs and honey in earthenware vessels plunged in hot water, and lift off the wax when cold from the surface of the honey.

BEES REFUSING WHITE SUPER FOUNDATION.—A correspondent, whose communication appears on p. 349 (query 876), sent for our inspection several combed sections with an inquiry as to why the bees had attached the comb to the tin dividers used. But this was not the real point of the matter, because in the sections referred to the bees have not only built distorted and shapeless combs—attaching them to the dividers as stated—but they have built, or attempted to build, them *alongside* the foundation and not *on it* at all!—clearly showing that the foundation used was distasteful to them, and that they would have none of it. In one section a narrow comb was built between the sheet of foundation and the tin divider. In another, a piece of comb had been formed at right angles to the foundation, and attached to it and the divider. Since the query referred to appeared several other samples of the same kind of foundation have been forwarded, all accompanied by complaints of "bees refusing it."

We give the matter prominence here with the twofold object of offering a word of advice to manufacturers and users of foundation. To the former we say, "Give up making foundation of this white wax." The bleaching process it undergoes renders it hard and less fit for the bees' use than the softer, unbleached wax. Then it nearly always has a "tallowy" smell, which implies adulteration. But, strongest fault of

all, the bees don't like it, as many know to their loss. To the "user" we say, "Don't use foundation of the kind complained of." Plenty of the excellent pale yellow make is to be had, and only needs asking for when ordering. In a word, if dealers and bee-keepers will each take the hint offered above, what has become a chronic cause of complaint for the last few years will be no more heard of.

A Big "Take" of Wasps.—It was thought by many that very serious consequences to bee-keepers would have ensued this autumn, in consequence of the enormous prevalence of wasps everywhere, and one can easily understand the feeling of alarm with which an attack on the hives was regarded in view of the multitudes of these freebooters seen flying into and about dwelling-houses. But so far complaints of mischief to bees through wasp robbers have been fewer than usual, and we may now fairly hope that the threatened danger is past, and that we have heard the last of the "plague of wasps." Before bidding good-bye to the subject, we must put on record the feat of Mr. Edward Wallis, head gardener at Hamel's Park, Braughing, Herts, who, according to a news cutting sent us, within the last few weeks destroyed no fewer than 450 wasps' nests, and has also caught twenty quarts of wasps in other ways! Mr. Wallis may not desire the title of "champion waspist," but he certainly has strong claims to the gratitude of bee-keepers for ridding them of such an army of foes.

Editorial Opinion.—It has been our good fortune to stand fairly well with appliance manufacturers of any standing, so far as our holding a perfectly independent position in all matters connected with trade interests in bee-goods of any and every kind. Old advertisers in our columns know this perfectly well, and would, we suppose, as soon think of asking us to give their goods a "shove up" by either the "puff direct" or in any other way as they would the Editor of the *Times*. But less-experienced advertisers are occasionally thoughtless enough to suppose otherwise, and, in consequence, will wonder why a gentle hint for a "good word" brings forth no response. And it is with no little satisfaction that we notice an "editorial" in the last issue of the *Bee-keepers' Review* (American) which so completely meets the case that we print it below without comment, beyond repeating the forcible observation of the member of the Local Board—"Them's my sentiments." The Editor says:—

"Sometimes, when sending in an advertisement, the sender will ask that he be given an editorial notice. If one advertiser is granted this favour all are entitled to the same, and, if each were given a notice, where would be the advantage? Samples of implements are sometimes sent with the intimation that an editorial notice would be the proper thing to give in return. Others even go so far as to say right out fair and square, 'Give me a good editorial notice and I will pay you anything reasonable.' I wish it distinctly understood that I have no editorial opinion for sale. I do not mean that I shall never notice and give praise to articles that are for sale. On the contrary, I think it is an editor's business to learn which are the best things and then to say so, but what he says should come about as the result of his own judgment—should come out spontaneously without solicitation. I do not mean that a dealer, manufacturer, or inventor must never call an editor's attention to the superiority of his wares; far from it, that is all right and proper, and then let the editor use his own judgment as to what he shall say, if he says anything at all, but let it be understood that what is said editorially is said freely with no money consideration in connexion with the saying. I believe that our bee journals are almost wholly, if not entirely, free from this fault."

Sending Comb Honey by Post.—Two or three times during the present season we have been favoured by well-meaning correspondents with sections of comb honey which have been so totally unfit for transit by post or otherwise that they have reached us smashed to pulp, and most of their contents "gone"—into post-bags, or somewhere we know not of. Such packages sent by post, and causing disagreeable "messiness" to the officials, are apt to bring bees and honey into disrepute. We therefore request senders to exercise care in making packages secure, and so to cause as little friction as possible between us and the authorities. Very rarely indeed does trouble of this kind arise with bee-keepers experienced in sending honey by post or rail. These know so exactly what will travel safely and what will not, that breakdown or leakage is the exception. Many amateurs also display a remarkable aptness for packing safely; to others we would merely observe that sections should never be sent unless the comb is attached to the brood on all sides.

WROCKWARDINE BEE CLUB.

The annual show of this enterprising Club was held in connexion with the exhibition of the Welligton Horticultural Society in the Vineyard grounds, which were kindly lent for the occasion by Mrs. J. H. Slany, on August 4th. As usual with this Club, there was a very fine display of honey, and in all the classes the entries were numerous and the competition was most keen.

Lectures were given during the afternoon by Mr. John Palmer, of Ludlow, in a bee-tent kindly lent, and recently invented, by Mr. Watkins, of Hereford; while Mr. Schofield, of the Lancashire and Cheshire B.K.A. performed the duty of judge. The whole of the arrangements were in the hands of the indefatigable Hon. Sec., Miss L. E. Eyton, who was assisted in the staging by Mr. Palmer. The following is the list of awards:—

Members' Classes.

Six 1-lb. sections.—1st prize, J. Palmer, Ludlow; 2nd, J. Carver, Wellington; 3rd, F. J. Fail, Wellington.

Six 1-lb. jars extracted honey.—1st, J. Palmer; 2nd, — Gough, Crudgington; 3rd, J. Carver; h.c., W. Jervis, Admaston.

Single 1-lb. section.—1st, J. Palmer; 2nd, J. Carver; 3rd, J. Shuker, Allscott.

Single 1-lb. jar of extracted honey.—1st, J. Palmer; 2nd, — Gough; 3rd, J. Carver.

Cottage Members only.

Six 1-lb. sections.—1st, C. Mainwaring, Charlton; 2nd, Mr. Brookes, Leaton; 3rd, J. Shuker.

Six 1-lb. jars extracted honey.—1st, Gough; 2nd, Mainwaring; 3rd, J. Shuker; h.c., H. Shuker, Allscott.

Best exhibit, not less than twenty-four pounds.—1st, J. Shuker.

Open Classes.

Twenty-four 1-lb. sections.—1st, — Cartwright, Shawbury; 2nd, J. Carver; h.c.,—Jervis.

Twenty-four 1-lb. jars extracted honey.—1st, — Nickels, Day House, Shrewsbury; 2nd, J. Palmer; h.c., — Gough and Jervis; com.,—Oakes, Broseley.

Twelve 1-lb. sections.—1st, Miss S. Ward, Hadnall; 2nd, — Cartwright; h.c., — Nickels; com., J. Carver.

Twelve 1-lb. jars extracted honey.—1st, — Nickels; 2nd, J. Palmer; 3rd, — Oakes; v.h.c., — Cartwright; h.c., — Fail and J. Carver.

Best hive for general use.—1st, J. Carver; 2nd, — Collis, Wellington.

Observatory hive with bees.—1st, J. Shuker.

Collection of garden bee-flowers.—1st, G. Lloyd, Overley.

Novelty in honey.—1st, J. Bradley, Yockleton.

Soft bee-candy.—1st, J. Carver; 2nd, G. Lloyd; 3rd, Mrs. H. Austin, Allscott.

Beeswax.—1st, — Cartwright; 2nd, J. Carver; 3rd, — Brookes.

Honey beverage.—1st, J. Bradley; 2nd, G. Lloyd.

Honey vinegar.—1st, G. Lloyd.

Cottagers only.

Cake made with honey.—1st, Mrs. C. Mainwaring, Charlton; 2nd, Mrs. G. Lloyd, Overley.

Pot of preserve in honey.—1st, Mrs. J. Shuker; 2nd, Mrs. C. Mainwaring.

Best bunch of bee-flowers.—1st, G. Lloyd.

Children only (under 15 years).

Bunch of wild bee-flowers.—1st, Lucy Lloyd, Overley.

Under 8 years.

Bunch of bee-flowers.—1st, Emily A. Lloyd, Overley.—*Communicated.*

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The twelfth annual show of the above Association was held on Sept. 6th and 7th in conjunction with that of the Derbyshire Agricultural Society. The show was a grand success, and the thirteen classes were well filled, the total number of exhibits being 136, and the honey staged totalling 873 pounds of comb, and 1547 pounds of extracted honey. The judging was carried out by Mr. C. N. White, assisted by Mr. Burgin of the County Association. In all classes the competition was most keen, notably in those for extracted honey. In the open class, Shropshire honey carried off the first prize, although hard pressed by the second and the third prize lots. The run honey was a grand lot. A good deal of the comb honey was in the now almost obsolete bell-glasses, a large quantity in Association and shallow frames. The bell-glasses looked exceedingly well, but what a waste of energy to store honey in such receptacles! In the classes for sections the display was excellent, the appearance, evenness, and finish being grand. The competitors for the B. B. K. A. silver medal staged eighty-four splendid sections, and every exhibit was worthy of a prize. The arrangements were carried out by Mr. W. T. Atkins, the able Secretary of the Association, assisted by the Committee, and the show reflected the highest credit on the work of the Committee, in endeavouring by distribution of the *Record*, by lectures, and demonstrations with live bees, to make bee-keeping general and a success in the county.

The following is a list of the awards:—

Best collection of appliances.—1st prize, C. Redshaw; 2nd, W. P. Meadows.

Best stock of bees in Observatory hive.—1st, F. Walker; 2nd, H. Hill; 3rd, H. C. Jaques.

Best stock of bees in Observatory hive (*cottagers only*).—1st, C. Clarke; 2nd, G. H. Varty; 3rd, A. Pearman.

Twelve 1-lb. sections honey (*members only*).—1st, A. Pearman; 2nd, J. Pearman; 3rd, R. Giles; 4th, J. Stone.

Best exhibit of comb honey, not less than 12 lbs.—1st, J. Stone; 2nd, S. Hawkins; 3rd, T. Austin; 4th, F. Walker.

Twelve 1-lb. jars extracted honey.—1st, W. G. Sale; 2nd, C. Wootton; 3rd, J. Pearman; 4th, C. H. Dyche.

Twelve 1-lb. jars extracted honey (*cottagers only*).—1st, A. Pearman; 2nd, R. Bridges; 3rd, J. R. Bridges; 4th, J. Kirkland.

Champion Class.

Best six sections and six bottles of extracted honey.—1st, T. W. Jones; 2nd, R. Giles; 3rd, G. H. Varty.

Open Class.

Twelve 1-lb. jars extracted honey.—1st, J. T. Nickels; 2nd, J. R. Bridges; 3rd, C. R. Hinckeman; 4th, A. Parry; 5th, W. Coxon; 6th, C. Wootton; v. h. c., Dr. Arbuckle and W. G. Kight.

Exhibit of honey in any form (*members only*).—1st, C. Wootton; 2nd, H. Hill; 3rd, T. Austin; 4th, A. Cooper.

Beeswax.—1st, T. E. Poxon; 2nd, J. Stone.

Beeswax (*cottagers only*).—1st, H. Meakin; 2nd, S. Hadfield; v. h. c., J. R. Bridges.

Fancy goods sweetened with honey.—1st, Mrs. Wootton; 2nd, Mrs. Pallett; 3rd, Mrs. Poxon; v. h. c., Miss Jones.

CLUN (SALOP) HORTICULTURAL SOCIETY.

In connexion with this annual show, held on August 30th in the beautiful grounds of Clun Castle, there was a nice display of honey in three classes, open to residents within the area covered by the Society, and cottagers were well to the front with their exhibits. Mr. J. Palmer, of Ludlow, acted as judge, and made the following awards:—

Four 1-lb. sections.—1st, S. Thomas, Oker; 2nd, Mrs. H. Creswell, Clun; 3rd, T. Pritchard, Bucknell.

Four 1-lb. jars extracted honey.—1st, S. Thomas; 2nd, T. Pritchard; 3rd, Mrs. H. Creswell.

Collection of honey.—Mrs. Griffiths, Clun.

KNIGHTON HORTICULTURAL SOCIETY.

In connexion with the annual show of this Society, held in the picturesque grounds of Bryn-y-Castle, Knighton, Radnorshire, on September 1st, there was an exhibition of honey in three open classes, and the Committee are to be warmly congratulated on the numerous entries and the uniformly excellent quality of the exhibits. Mr. J. Palmer, of Ludlow, acted as judge, and the following are the awards:—

Six 1-lb. jars extracted honey.—1st, H. W. Bennion, Betton Wood, Market Drayton; 2nd, B. G. Brocklehurst, Ludlow; v.h.c., W. Mainwaring, Brimfield; com., — Beale, Shrewsbury, — Hamer, Llanarthney, Carmarthenshire, and G. Bullock, Craven Arms.

Six 1-lb. sections.—1st, H. W. Bennion; 2nd, E. Griffiths, Knighton; v.h.c., A. Beale; h.c., — Hamer.

Collection of honey.—1st, — Hamer; 2nd, — Dewhurst, Knighton; 3rd (extra), E. Griffiths.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of August, 1893, was 2660*l*.—*From a return furnished by the Statistical Office, H.M. Customs.*

PERSONAL.

You will greatly oblige if you can find space in your next issue of the *Journal* for the following:—

On the 23rd inst. I leave for America. I hope to be home again before Christmas. During my absence business will be carried on as usual. My headquarters while in America will be 550 to 560 Madison Avenue, Elizabeth, New Jersey.

I shall be pleased to attend to the commands of my friends while in America.—Yours truly, S. J. Baldwin.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

HONEY-DEW.

[1547.] Mr. Woodley (1541, p. 355) refers to an observation in my previous letter (1522, p. 334) about the above. The September number of the *Illustrated Bee Journal* (Gravenhorst's) has a very interesting article by A. Alberti, dealing with the same subject. I send you a few extracts:—He says, "Honey-dew has for a long time been a two-sided question; some consider it to be the excrement of insects, but the majority of bee-keepers now favour the idea of it being simply pearly drops of sweetness, exuded from the leaves of trees owing to a sudden change of

temperature. He observed honey-dew at different times upon firs, oaks, limes, willows, &c., and it was sometimes visited and greedily carried off by bees, while at other times they have taken no notice of it. In the same way when branches of trees in that condition were placed in front of hives they have been cleared and cleaned of it ravenously, or left quite unnoticed. This latter is always the case when the substance was that exuded from the body of the aphis, a green fly which forms a greasy mess covering the upper part of the leaves, always having a taste of rosin or 'tannin,' which the bees refused. The case, however, was quite different with the sweet drops exuding from the edges of the leaves, which were never of a greasy, dirty nature, but always little round clear drops, which he has watched becoming larger and larger by degrees. After most carefully clearing a fir-branch of every living insect, it was taken into a warm room on a cold day, when the pearly drops soon began to exude from the undersides of the ends of every leaf, and they increased during the night in size, and were greedily taken possession of by bees the next morning."

Whether the presence of insects indirectly assists through attacking the leaves in the production of honey-dew perspiration is an open question, but Mr. Alberti has ample proofs (*ad oculos*) that the real honey-dew is exuded by the plants, and not by the greenfly, &c. It is also to be noticed as a special characteristic that the *bubble form* is easily distinguishable, under the microscope, in the real honey-dew, whilst insect exudation appears quite different, though the latter may be sometimes mixed with the dropping honey-dew when it falls flat upon the upper surface of the leaves. There is no doubt that honey-dew proper is caused by a very dry atmosphere, when cold nights follow very hot days, and more still, when the atmosphere suddenly becomes cooler without rain, when the juices of plant-life containing saccharine are arrested and the growth of the farinaceous matter is not converted into its proper channels and therefore exudes as honey-dew in that way. Mr. Alberti is one of the best living authorities on apiarian matters, and one of the greatest living bee-masters. I was much interested in the above article and I think every intelligent bee-keeper will give it consideration.—J. G. K., *Grove House, Southborough, Tunbridge Wells.*

EARLY GRANULATION OF HONEY.

[1548.] One of the extraordinary features of the season here has been the way in which honey has granulated. On June 3rd I extracted some honey from a hive, the first extracted honey I had taken this season. About a month afterwards I tried to extract some more from the same hive, but could only get about a pound from half-a-dozen shallow frames, the honey being quite granulated, except a little at the top in some of the cells. What the cause of this is I cannot make out, as the combs were uncapped and placed in the extractor only a few hours after taking them off the hive. Nearly all the honey I have taken since then has been in the same condition—sections and shallow frames, sealed and unsealed, granulated on the hive. Having some shallow-frame supers with glass sides, I could see the honey was granulated before it was sealed over. The honey has also been very poor in quality—dark, with a lot of honey-dew mixed with it. Some of my hives have done very badly this season, only getting about a quarter of my sections finished. From one of my skeps the total yield was five unfinished sections. What I should like to know is this, how to get the granulated honey out of the comb without destroying the comb with my shallow frames. I would sacrifice the honey to save the comb, if possible, as it is hardly fit to feed the bees on. I should also like to know if other people have been affected in the same way in other districts, and, if so, what they propose to do?—R. P. W., *Watford.*

QUEEN-EXCLUDER ZINC.

[1549.] Referring again to my communication (1523, p. 335) and your foot-note thereto, I beg to quote Mr. S. Simmins, who says:—"I am prepared to assert that better results are to be obtained without its use." (1.) It is news to me, indeed, to hear that "queen-excluder zinc is indispensable in working for extracted honey," or that it was generally admitted to be, and I have always connected it with comb honey. When using it the brood and surplus chambers are more divided. (2.) It helps to destroy the idea which the bees should get, that their combs are not attached to the roof of their home. (3.) It also gives the bees occupying the surplus chambers the idea of queenlessness, which is proved by their building queen-cells above it, and it is not likely that bees will go into a chamber where they feel queenless unless they can no longer stop below for want of room. The less the surplus chambers and brood chamber are divided the better. Honey-boards are worse than a sheet of zinc covering the whole of the frames; the so-called improved zinc is worse than the old. (4) I do not think that a little brood in the surplus chamber is such an awful thing when running for extracted honey. (5.) This dummy, which I send in accordance with your request on p. 336, was tacked to another, and then perforated in order to save time; but I do not find it a good plan—it makes the wood more brittle. The holes of the upper one are apt to be burnt larger than the under one. It scorches the under surface of the wood.—LEONARD SMITH, *Beds.*

[The opinion of, perhaps, nineteen out of twenty of those who work extensively for extracted honey is now so strongly in favour of the use of excluder zinc below extracting combs that we think it hardly needs discussion, except to re-

ply to the propositions put forth by our correspondent, which we have numbered for convenience of reply to him as under:—1. Many experienced bee-keepers use no excluder zinc below sections, contending that the very nature of "sectioning" is against the probability of the queen depositing eggs in them. But they admit that the case is entirely different when working for extracted honey, and we think a little experience in this branch of honey-production would convert our correspondent to the same view. 2. We do not quite "catch on" to the idea of this sentence. 3. There is no analogy between bees occasionally starting queen-cells in surplus chambers and "the idea of queenlessness," which it is said to convey. Bees *not queenless* raise queen-cells in brood chambers, and why not in those intended for surplus? 4. Combs kept for extracting purposes should never have had brood in them; but the further mischief which arises is that in many seasons when once queens begin to breed in surplus boxes, they stop there till the combs are filled with brood instead of honey. Queens should be rigidly excluded from extracting combs. 5. Finally, we are glad to have an opportunity of inspecting the "Wells" dummy, referred to on p. 336, and kindly sent by our correspondent, but it is not a true "Wells" dummy, as he would admit if he saw an "original."—EDS.]

A VAGRANT SWARM JOINING A STOCK.

[1550.] I think the following may interest some of your readers so send particulars, believing the circumstance to be very unusual. I had been going through my five boxes of bees, removing surplus frames of honey, and was in the act of robbing my fifth box, the lid and coverlet of which were off, when the familiar sound of "ringing" came from the neighbouring meadow. I at once perceived that a brother apiarist was following up a renegade flight or small swarm of bees. Clearing successive trees and hedges, they ultimately halted and careered overhead of my five boxes, eventually descending straight into the box my attendant and self were overhauling, entering for the most part by the opened top, and not by the usual aperture.

Many a noble sheik has bitten the dust this day, the battle raging fast and furious with the invaders and invaded, till the ground for some distance is strewn with the bodies of the once doughty but meandering swarm.

I doubt not but that I am distinctly the loser in this matter, as not only will these aliens be cut down to a bee, but very many also of my own stocks which were at home peacefully biding their stores will, in their endeavours to expel the invaders, succumb to wounds sustained in defence of their colony.

Should I meet with a similar experience, I shall at onee proceed to syringe with peppermint and water.—ROWLAND BOBBY, *Norfolk.*

DIFFICULTY IN EXTRACTING HONEY.

[1551.] Like "A. D. J.," I have had some trouble in extracting this year; in fact, I never had such trouble before, especially in the early part of the season. My extractor is a good one, and has extracted some hundreds of combs in its time. This year, however, the honey was so thick that it refused to leave the cells, especially in the case of new combs, so I was obliged to scrape them down to the midribs, and strain through a cheese-cloth. I can forward you a sample of honey, but it is granulated. I have always noticed that fruit-blossom honey is harder to extract than the later honey.—ELVEY E. SMITH, *Kent.*

[We, too, have had some exceedingly dense honey to extract this year, and being located in the same county as our correspondent, it may be from nearly the same flowers or source; but on no occasion has the extractor failed in removing it well from the combs.—EDS.]

LATE HONEY-GATHERING.

[1552.] I send you herewith a section of honey, as I should like to know what flowers it has been gathered from. After the clover was finished, my bees ceased getting honey, so I took the supers off; but, on going into the garden on August 12th, I saw a quantity of bees lying out of the mouth of a hive, and I was sure "I smelt honey," so I opened a hive, and found bees was storing honey quickly in the brood nest. I put on a crate of sections, with full sheets of foundation. I had a peep in on the 14th, and found a number drawn out from a quarter to over half an inch on each side containing honey. They continued to fill rapidly for a few days; but, finding that the flow was about over, I took the crate off to-day. Some of the sections are nicely finished, and others well forward. I send you one of the latter, with part sealed, so that you can see it both sealed and unsealed.

My bees have never gathered honey at home in August before, and I am at a loss to know where they have got it. I watched them closely, but could not find them working on any flowers in the neighbourhood.

I told a bee-keeper that bees were gathering honey, thinking that he might benefit by it, as he had some bees, but he only smiled, as much as to say, "I know better than that," and afterwards told me it was nonsense. But to-day I let him see and *taste* one of the sections, and he remarked, "Man, but it's good!"

I have three nucleus hives, and they are also well stocked with honey. I converted a large hive into a "Wells," getting a perforated dummy from Mr. Howard, and have taken it to the heather. If you care to have results after the season is over, I will give you particulars.—STATION MASTER, *August 26th*, 1893.

[The section reached us in a state of pulp, and as for the honey, there was not so much

left as allowed us to get a taste of it, so that we can form no opinion as to what it was from. In justice to the postal authorities—who, no doubt, got the honey where they did not want it—we must say it is not fair to send unfinished and unsealed sections by post, as they are certain to be broken in transit.—EDS.]

MY FIRST YEAR'S BEE-EXPERIENCES.

[1553.] If you could find a corner of your *Journal*, perhaps the ups and downs of an amateur may be of some use in helping others to avoid the quicksands and whirlpools which every beginner must face.

Situated on a fruit farm in a lovely part of Worcestershire, I watched with interest the manipulations of a friend who had charge of four stocks of bees belonging to the place, and who, in spite of discouraging remarks, gradually felt his way to the keeping of bees without the help of brimstone. Seeing the interest with which I watched his operations, he kindly lent me Cowan's *Guide-book*, which I soon devoured, also Pettigrew's book; and one day, whilst on duty together, he induced me to buy some large straw skeps, eighteen inches by twelve inches, which he was about to order. During the next week I found two stocks in small skeps for sale, one of which was very strong. The old lady wanted 2*l.* for them, but I managed to bargain for 1*l.* 16*s.* On the evening of March 10th my bee-friend brought them safely home.

The first few months of my bee-keeping were not very eventful. I did a little feeding to help the bees on, some of it being, I supposed, injudicious, such as pushing in sticks of candy at the entrances, which started robbing a little; but the bees got on well, and in April I determined to try a self-hiver of my own contrivance. But the bees made no attempt to swarm, so its efficiency or otherwise was not tested; and, in consequence, on the 6th of May, with a shade temperature of 75°, I determined to make an artificial swarm, notwithstanding that my bee-friend was unable to help me. So alone, and with some fear and trembling, I prepared for the fray. And what a fray! It will be a long time before I forget this, the first "event" of my bee-life so far.

I drove some smoke into the skep, which was so full of bees that they came out in streams through the smoke; waited a minute, and then turned the skep on to its crown, pulled off the floor-board, and placed a large skep on top, which fitted like a lid, wrapped the sides for about four minutes, took off skep with some four pounds of bees in it, set in position, and then placed floor-board on stock, and turned it back to its proper position, when to my dismay I found the combs had become detached through my rough handling and no supports in the hive! I now began to sweat in very deed, and to add to my discomfort a dozen or more persons congregated at a safe distance, and passed uncomplimentary remarks at my madness in interfering with bees before smothering them. This did not improve my method of working, and I retorted, perhaps with interest. However, I returned to the charge, determined to do or die. The wife in the meantime bringing some dishes to my hand, I lifted out the combs the best way I could, found two pieces with brood in, which I placed on one side, the crown of skep by this time having about four inches of honey in it, and the stings from the drowning bees whilst lifting out the combs, though painful in the extreme, had to be carefully concealed from my friends the onlookers.

I got the honey safely indoors, returned and put the pieces of comb with brood in large skep, setting it on the old stand, into which bees in thousands seemed to come. They then clustered outside, and refused to take down any syrup. The swarm, however, went on all right, taking syrup well, and gaining six pounds in eight days, having taken twelve pounds of syrup. The stock meantime only took four pounds and gained two pounds in same time, so I decided to buy a queen, and not wait for them to rear one, so I bought one from the Rev. C. Brereton (Sussex)—a Carniolan, which, according to his instructions, I placed for half an hour in my pocket at dusk in a match-box; drove the bees back from crown of skep with a little smoke, and had the pleasure of seeing her majesty safely run down. I then covered up warmly and placed some food on. The next day all wrs quiet. Two days after I saw pollen being carried in.

June 9th.—On weighing No. 1, with Carniolan queen, I found it had only gained one pound in three weeks. Again weighed on July 9th, gained nine pounds; fed twelve pounds of syrup, they being so cross and so many bees—fear not much stores; turned up skep and found it three parts full and a large cluster of bees in the empty space in hive. Weighed again August 22nd, and find they have gained six pounds; total net weight, twenty-six pounds.

Weighed the swarm June 9th, gained six pounds; again weighed on July 9th, gained twenty pounds; turned up and found about the same amount of comb as stock, and finally weighed up August 22nd, and find a gain of seventeen pounds; total net weight, forty-three pounds. Stock, which seems all bees, twenty-six pounds; swarm, with two sheets of foundation, forty-three pounds. Will finish next week and give balance-sheet if you think it worth a place in *Journal*.—C. H., *Stoke Prior, Bromsgrove, Worcestershire.*

BEES AND HONEY IN JERSEY.

[1554.] Agreeably with your request (*B.B.J.*, page 315), I have sent three jars of Jersey honey, which are fair examples of what has been extracted here during June, July, and August. These honeys have been obtained from various sources: No. 1 is from fruit-bloom—my first extract of early honey; No. 2 is the middle crop, and its dark colour is caused by honey-dew, which has been gathered pretty freely by

the bees. The "early risers" began working on the leaves about three o'clock each morning, and—not having joined the Eight Hours movement—they also worked late into each evening. With respect to honey-dew, Jersey is in good company this year, it having been complained of in different parts of France, Switzerland, and even in America. The sample marked No. 3, which is bright and clear, is from my third extract, just taken, and is mostly from clover and heather. As to the yield of honey with us, I may say that several small apiaries of four hives that have come under my notice, have each produced between 149 and 160 pounds of honey, or an average of about thirty-five to forty pounds per hive, at the July extract. These were first-rate hives; in several other cases, with second-rate colonies, the yield has been less. For myself, I got twenty-five pounds per hive from the July extract, but I have had besides a previous extract of fruit-bloom honey. Then the white clover, and second crop red clover has been exceptionally good this year, and we expect our total extract from this will about equal that obtained in July, and the quality is better, as you will see from sample No. 3. Some parts of the island will yet, however, give an extract, which will be from heather only. I will send you a sample of it later on, so that you may compare our southern heather honey with that from the north of the British Isles.

The honey-flow, although it lasts long, is not at any time sufficiently strong with us to make the place a good one for the production of comb honey; hives have only produced, thus far, between one and three dozen sections, but the crop of these is not yet completed. There have been very few natural swarms. Visitors to our charming island all express surprise at the fresh condition of its vegetation during this exceptionally warm and dry summer.—PETER BOIS, *Jersey, August 28th.*

WORKING A "WELLS" HIVE.

[1555.] I have a "Wells" hive stocked as follows:—On June 7th two of my swarms came off and settled together; they were hived about sunset, the queens and bees being divided in two lots, and hived in a "Wells" hive that I had in readiness. These swarms did very well, and in about three weeks I supered them, but as no honey was to be had in July, nothing was done in supers. On examining them in mid-August I found the combs on each side of the dummy full of pollen, and all the perforations in the latter stopped up. The pollen-filled combs were removed, and replaced by two frames of empty comb, while the holes in the dummy were burnt out with hot wires. The bees were then fed with a slow feeder. In four days, however, the holes in dummy were again stopped. Should they be opened again, or left as they are? The dummy is one-eighth of an inch thick, with one-eighth-of-an-inch holes half an inch apart. There was no propolising of the holes till the bees had got rid of the drones.

It has been a bad honey season in this part; very little in June and none in July. August has been the best month for honey-gathering.—GEO. HEAD, *Winkfield, September 4th.*

[We should certainly clear the propolis from the perforations when the bees have ceased gathering propolis for the season. It is evident that, from some cause or other, the bees have not clustered on the perforated dummy in true "Wells" fashion.—EDS.]

Echoes from the Hives.

Beemount, Stoke Prior, September 7th.—What an exceedingly long summer we are enjoying this year!—beginning in early spring, and apparently going to continue into the autumn. My bees have been very busy the last few days, and I wondered from whence they obtained their supplies, but to-day I discovered their happy hunting-ground. About five minutes' walk from here is a large orchard, containing numbers of pear and apple-trees. I had occasion to visit this orchard this afternoon, and was surprised and secretly delighted to find that numbers of over-ripe pears and apples which had been partially eaten by wasps and birds were now being eagerly devoured by bees. At least 200 bees to one wasp were at work on the juices of the fallen fruit. I gave my stocks a good overhaul yesterday, and was more than pleased to find that each hive contained a large amount of brood in all stages. I succeeded in "spotting" the queens without much difficulty, and each appeared to be in good condition. There was also a fair amount of honey in the brood chambers. The two artificial swarms from straw skeps, and the stock I transferred from a straw skep into a bar-frame, August 1st, were in A 1 form. I am now feeding up rapidly where required, so as to have all ready to pack up for winter. I could not but notice how very docile the bees were yesterday when being examined. I did not get a sting. This time last year they were anything but gentle.—PERCY LEIGH.

North Oxon, September 10th.—The season here has been exceptionally good. From eight hives, spring count (five bar-frame and three skeps), I have taken 480 pounds of honey. From my best hive (two casts united in 1892) I took 105 sections, my next best yielding 100 pounds of extracted honey. I worked for extracted honey on the storifying principle, without using queen-excluder zinc. I don't think I shall repeat this mistake, as the first lot of frames put on, when taken off the end of the season, extracted very badly, and if my foundation had not been wired I should not have been able to extract at all. I have had two swarms from one of the three skeps. The others did not swarm, but gave me four fine supers of comb honey. I have since driven them, and

united in a bar-frame hive. Swarms have been very scarce here this season. Skeps have not done very well. I have driven ten, which did not average above twenty-eight pounds each—combs, brood, and honey. A friend of mine has taken sixty-five pounds of honey in sections from driven bees last autumn, put on half-sheets of foundation.—G. JORDAN.

Queries and Replies.

[883.] *The "Wells" Dummy.*—1. I have made a hive on the "Wells" principle, and fitted a wood dummy like enclosed sample, but somewhat thinner, having 188 perforations. Is this enough? 2. Would a dummy of common perforated zinc answer the same purpose (not queen-excluder zinc)? 3. How soon can bees be put in a hive after it has been painted? 4. If I bought two lots of driven bees—say, about four or five pounds in each lot—and put them in a "Wells" hive, are they likely to do well if fed? 5. Is it necessary to remove combs from hives for wintering?—CASTEL CANE, *East Dulwich, September 4th.*

REPLY.—1. The wood should not exceed one-eighth of an inch in thickness, and be of best pine, well seasoned. The perforations in pattern are rather too large, and much too far apart. They should also be burnt with a hot wire, after boring, to remove the burr. You should, if possible, get a genuine "Wells" dummy as a pattern. 2. No; zinc is not suitable for the purpose. 3. Just as soon as the strong smell of the paint has gone—say, three or four days. 4. If you have ready-built combs to put the bees on, they would do well enough, but it is more or less trying to compel them to build new combs and store them for wintering on. 5. Not absolutely necessary; in fact, many bee-keepers do not contract their hives at all for wintering.

[884.] *Losing Queens — Winter Passages — Food for Winter, &c.*—May I be allowed once more to trouble you with a few questions on introducing queens and wintering stocks? 1. I introduced a Carniolan queen on the 26th ult., after having first cut out six queen-cells—all there were in the hive. I examined again on August 31st, finding a small patch of eggs in the centre of one of the combs. To-day (September 8th) I wished to see how matters were progressing, and found to my utter astonishment three queen-cells sealed over, and apparently about nine days old! There were also some few grubs and nymphs in a good-sized patch. I could not find the queen, nor have I seen her since introducing her; neither did I see any eggs after having made a most thorough search. Would you kindly advise me what to do under the circumstances, seeing the near approach of cold weather? 2. Is it absolutely necessary to make winter passages through all the combs, and to extract from all unsealed cells? If so, when should this be done? 3. Can you tell me why Demerara sugar (the brown or yellow) is not suitable as a bee-food, and would the syrup recipe No. 4 (page 163 in the *British Bee-keepers' Guide-book*) keep through the winter in well-corked bottles or jars? 4. I notice naphthaline as being recommended to place in the hive before closing for the winter. Have not the bees an objection to the use of this?—if not, where should this be placed, and how much in each hive? 5. How many pounds of honey does each pound of bees require to winter safely upon? I understand they require empty combs to cluster on. How should these be arranged with the sealed stores? 6. Has Herts a Bee-keepers' Association?—J. J. K.

REPLY.—1. If the queen is really gone, as appears likely, there is no remedy but re-queening, for it is almost certain that the young queens now hatching will never be fertilised. We fear you have overlooked the fact that too much manipulation of frames in autumn is fraught with danger to newly-introduced queens. 2. No. Many good bee-keepers never trouble to cut winter passages through combs, but merely lay a couple of sticks across tops of frames to effect the same purpose. 3. See reply to W. S. Trapp on p. 370. 4. Full particulars for using are sent along with the package. Bees don't quite like the smell of naphthaline, but nothing serious happens in consequence. 5. A good stock requires about twenty pounds of stores to winter. Don't mind about them having empty combs to cluster on, and let the bees make their own arrangements. 6. No. Formerly it had a very strong Association, but it has ceased to exist for some years.

[885.] *Dealing with Foul Brood.*—I send a piece of brood for examination. The history of the hives is as follows: Two weak stocks were joined on April 19th. They have got fairly strong, but have yielded very little surplus. On August 7th I caught the queen, and introduced the bees and queen driven from a skep I have had for some years. A day or two later I caught the skep queen, rendering the colony queenless, as I was expecting a Carniolan queen. There was no fighting when I joined them, and it was a very hot day. On Wednesday, August 30th, I looked in to see if they were raising a queen. I found three queen-cells and four frames of dead brood. I have never seen foul brood, nor heard of it in this neighbourhood. I have two other hives quite close. I have burnt the four combs all but what I send, but have done nothing else, and shall be very glad of directions.—A. J. N.

REPLY.—The stock is badly affected with foul brood, and we should certainly advise the total destruction of bees, combs, and everything loose about the hive, thus putting the disease out of sight for ever. The other alternative is buying a queen to unite to a lot of diseased bees, which would require new combs built on full sheets of foundation, and furnished with twenty pounds of food to winter on, with the constant risk of infecting the other healthy stocks during the process of attempting a cure.

[886.] *Making a "Wells" Hive.*—1. I intend to try the "Wells" system next season, and am going to put two driven stocks into a double hive, but I want to know what kind of a division to put between the two parts of the brood chamber. Would perforated zinc do, or has it to be wood, and if so, what thickness is best, and what size ought the holes to be? 2. Was the 150 pounds of honey reported to be taken by Mr. Wells, extracted or comb honey? I suppose it would be last year that he got it? If you would tell me the numbers of *B. B. J.* or *Record* that have a full account of the "Wells" hive I should like to have them, in order that I may get all the information possible. I know of several bee-keepers who have taken one hundred pounds of extracted honey from a single-queen hive this year, and another has taken upwards of seventy sections of clover honey, and forty-two of heather honey from one hive, making 112 sections from a single-queen hive. In my "Wells" hive I intend to have the entrances at the opposite ends of hive and also from centre of hive to each end, painted different colours, and the bottom board of each half-hinged at the centre, in order to drop it and give large entance and more ventilation when required. 3. Is there any known way of separating heather honey from wax when gathered in frames instead of sections?—THOS. HARTLEY.

REPLY.—1 and 2. *Bee Journals* for April 20th, May 19th, and Nov. 3rd, 1892, give the desired information. 3. Heather honey can be removed from the combs by means of strong presses made for the purpose. The old method followed was to cut up the combs into slices and hang them in a coarse woollen bag in front of the fire. This is called "dropped" honey; but pressure is required to force it through the bag.

[887.] *Bees Refusing to enter a "Wells" Hive.*—I have a "Wells" hive which I wanted to fill, and got four stocks for the purpose. When I put the first two of them to their quarters, they went in readily; the other two refused distinctly to be forced into theirs. I tried them three successive times, but was thoroughly beaten by them. They always clustered on the outside of the house, and went back into the straw hive readily when brushed down, but would not enter the "Wells." I may say that I had the hives in boxes of two hives each, and also that I had foundation on the bars and a frame of honey for their use. I shall be glad to have your views on the matter, as I cannot understand it.—JAMES MCLEOD, *Dalbeattie, September 7th.*

REPLY.—We do not quite understand your "having the hives in boxes of two hives each." Nor do you state how the entrances were arranged. If we had experienced any difficulty in getting a swarm to enter a hive by the entrance, we would remove a frame or two and throw them in at the top. On the other hand, a "Wells" hive made as Mr. Wells uses them can have the floorboard lowered three inches, so that if a swarm was thrown down in front of an entrance like that, the bees could not help but pass in.

Bee Shows to Come.

September 19th.—Honey Show, &c., in connexion with the North Lonsdale Agricultural Society at Ulverston, under the Lancashire and Cheshire B.K.A. rules. Prizes value 6*l.* 6*s.* 6*d.* Entries closed. Nelson Wearing, Hon. Sec., Ellers, Ulverston.

September 23rd. — Roxburghshire B.K.A. annual show of bees, honey, and appliances, in the Corn Exchange, Jedburgh. Twenty-four classes, including seventeen for honey. For schedules apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. For schedules apply W. C. Young, Secretary, Dairy Farmers' Association, 191 Fleet Street, London. Entries closed September 11th.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. S. TRAPP.—*Sugar for Bee-food.*—No doubt the sugar sent would be the kind ordered. No. 7 in list is the sugar we recommend for autumn feeding when our opinion is asked. Some bee-keepers, however, use No. 4 for both autumn and spring feeding. Whether they are quite wise or not in doing so is another matter. The objection to brown or *raw* sugar for bees is that it is apt to cause dysentery, because of the molasses or treacle it contains, and which is removed in the refining process.

F. W. HAMLYN.—*Sending Samples of Honey for our Opinion.*—Honey is of very fair quality, from white clover. Our correspondent must not take it amiss if we venture to utter a mild protest against sending samples of honey in unsuitable vessels, and mention his case as an example of what often occurs. It reaches us in a bottle or jar of *brown glass*, and with a neck so small as to hardly admit a lead pencil, consequently we cannot judge the colour or the aroma properly, nor can the honey be easily got at without breaking the jar.

A. G. S. (Lincoln).—Comb is affected with foul brood, and should be promptly dealt with as directed in this *Journal.*

J. BARRY (Canonagh).—The Secretary, Mr. J. Huckle, Kings Langley, Herts, will supply information as to membership of the British Bee-keepers' Association.

*** *Several letters, reports, &c., are in type, and will appear next week.*

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

AUSTRALIAN BEE-KEEPERS AND EUCALYPTUS HONEY.

Quite an unusual amount of interest, combined with, perhaps, a gentle "flutter," has been aroused in our editorial sanctum within the last few days, owing to the receipt of several communications — closely following each other—from readers dwelling on quite the other side of the world; to wit, in Australia and New Zealand. But our personal interest was very pleasurably heightened by a call, on the 13th inst., from a veritable colonial bee-keeper, in the person of Mr. J. D. Pender, vice-president of the Hunter River Bee-keepers' Association, Australia, who has been travelling in various parts of Europe, and left England on the 15th for America, on the way back to his distant home in the antipodes.

A Scotchman by birth, Mr. Pender has been settled for about thirty years in Australia, and is a thorough-going colonist. He has been combining business with pleasure, one of his "missions" here being to endeavour—in the interests of his Association and its members—to find out what prospect there is of establishing a market in this country for Australian honey.

This brings us to the subject with which the correspondence, to which reference has been made, especially deals; and as the communication printed below only reached our hands a few hours before Mr. Pender himself called, the coincidence was mutually helpful. It reads as follows:—

"In your issue of June 1st, in reply to 'A Working Man' (Query 790, p. 216), you make some erroneous statements in regard to Australian honey, and which are calculated to do an injury to a trade we are now striving to open up on the English market. In the first place, you state that 'Much of the colonial honey is so rank and strong in flavour as to be totally unfit for table use.' Now, this is not so, unless a very small quantity occasionally, from some insignificant source. Further on you say, 'This is especially the case in some parts of Australia and New Zealand, where the "Tea-tree" and the various eucalyptus or gum-trees grow so abundantly as to quite spoil the flavour of the better-class honeys collected in such districts.' Now, the fact is that nearly all our better-class honeys are obtained from the eucalypti, and, instead of being 'rank and strong,' are considered equal in flavour to any in the world.

"I am posting you a sample of eucalyptus honey from the spotted gum (*Eucalyptus maculata*). It has only been gathered within the past week, and extracted this morning. What do you think of it? Is it 'rank and strong?'

"Should any of your readers wish to obtain samples of pure eucalypti honey direct from the producer, I will gladly send same, upon receipt of stamps sufficient to cover cost of package, postage, &c., which will be about 9*d.*—H. L. JONES, *Mel Bonum Apiary, Goodna, Queensland, Australia, August 5th.*"

Before proceeding further, we would ask, Where are the "erroneous statements?" Our correspondent, to be quite fair, should have quoted the full paragraph, which reads thus: "Good colonial honey there is, no doubt, but much of it is so rank and strong in flavour as to be wholly unfit for table use." This statement is not erroneous, but perfectly accurate, judging from our past experience of colonial honey sent over here. The sample received from Mr. Jones is immensely superior to what we have been accustomed to see—good in colour and consistency; but *it*, too, has the peculiar flavour and strong aroma which, in our opinion, unfits it for *table use* in this country.

Mr. Pender, whose mission, as we have said, was exactly in accord with the views expressed by the writer of the letter before us, had with him samples of Australian honey which we considered superior to that from the Mel Bonum apiary, and, during the very enjoyable hour or two spent in con-

verse with him, the *pros* and *cons* of the importation question were fully gone into. We were also enabled to submit to him a few samples, good and bad, of British honey for the purpose of comparison between it and that from Australia. Moreover, we have promised to send, in the course of the next few days, further samples of British honey, which will probably reach Mr. Pender's home on the Hunter River before he himself arrives there. By thus placing the matter fairly before the members of the Australian Association, they will be able to realise the difference between British and eucalyptus honey, and judge how far the latter is likely to find favour here.

Viewing the importation question in a practical light, there seems to be only two courses open in dealing with honeys gathered from, or strongly impregnated with, that of the various eucalypti. The first and best of them is, in our view, to "push" the honey, specially with regard to its valuable *medicinal properties*. We take it these are admitted, and considering the favour with which the various eucalyptus oils are now regarded for their antiseptic and medicinal properties, there is every chance of it meeting with a ready sale as a medicinal honey. On the other hand, if there is to be any hope of Australian honey being successfully placed on the British market as a table honey, the flavour and aroma of the eucalyptus *must be got rid of*, by evaporation or otherwise. We are told that this can be done—and if that is so, well and good. If not, we can but express our opinion that the task of educating the British public to appreciate the peculiar flavour, which seems to be thought highly of in the Colonies, is one which we fear our Australian bee-keeping friends will never succeed in accomplishing.

JOHN HUCKLE TESTIMONIAL FUND.

In June last an appeal was made in our columns on behalf of the fund now being raised as a testimonial to Mr. John Huckle. We do not know that anything can be added to what was then said, but, before closing the list, we may be pardoned for not observing to the full the delicate and seemly reserve proper on such occasions, in order to remove an erroneous impression which appears to prevail, and which has, no doubt, had an adverse effect on the fund itself. In a word, there seems to be an idea prevalent among bee-keepers that Mr. Huckle is comfortably provided for, so far as worldly goods go, and that pecuniary help is, therefore, in his case quite unneeded. We go no further than saying that this is unfortunately not the fact, and it is only mentioned here because many names are missing from the subscription list which we are sure will be found thereon when Mr. Huckle's true position is made known.

It has also been suggested that Hon. Secretaries of Bee-keepers' Associations would be enabled to augment the fund by receiving small sums from members, and forwarding them, either in bulk as a contribution from the Association, or with names, as may be preferred. We need hardly say that any help will be much appreciated by those who are interesting themselves in the matter, and the list will be kept open a short time longer for the purpose of seeing what can be done in this direction. The full list of donations received or promised is as under:—

	£	s.	d.
The Baroness Burdett-Coutts	3	3	0
Sir Thos. Gibson-Carmichael, Bart.	3	3	0
Thos. W. Cowan	3	3	0
Henry Jonas	3	3	0
Geo. Neighbour & Sons ..	3	3	0
Hon. & Rev. H. Bligh ..	2	2	0
W. Burdett-Coutts, Esq., M.P.	2	2	0
Capt. Campbell	2	2	0
W. Broughton Carr ..	2	2	0
Jesse Garratt	2	2	0
T. B. Blow	1	1	0
W. P. Meadows	1	1	0
Walter Martin	1	1	0
Capt. St. G. Ord	1	1	0
Wm. Woodley	1	0	0
C. N. Abbott	0	10	6
Abbott Bros.	0	10	6
W. Carr (Newton Heath) ..	0	10	6
C. Overton	0	10	6
Alfred Watkins	0	10	6
Miss Beach	0	10	0
Rev. Dr. Bartrum	0	10	0
Wm. Dixon	0	10	0
Miss Eyton	0	10	0
Miss Gayton	0	10	0
J. G. Highton	0	10	0
F. H. Lemare	0	10	0
George Roberts	0	10	0
George Rose	0	10	0
E. D. T.	0	10	0
A. S. Horlick	0	7	0
Miss J. Cooper .. .	0	5	0
Rev. R. N. Lamb	0	5	0
J. H. N.	0	5	0
W. McNally	0	5	0
C. Redshaw . ..	0	5	0
T. D. Schofield	0	5	0
John Walton	0	5	0
J. Willard	0	5	0
Carried forward ..	41	8	6

Brought forward	£41	8	6
T. W.	0	5	0
Geo. Wells	0	5	0
R. Philipson ..	0	2	6
W. T. Anstey ..	0	2	0
A. W. H.	0	1	0
T. & W. Moore ..	0	1	0
A. Stringer & J Wrench ..	0	1	0
Total	42	6	0

SCOTTISH BEE-KEEPERS' ASSOCIATION.

Glasgow Autumn Show.

This show was held in conjunction with the West of Scotland Horticultural Society's Exhibition in St. Andrew's Halls, Glasgow, on Wednesday, the 6th inst., and in connexion therewith our esteemed correspondent 'C. M. R.' sends the following:—

"Notes on the Honey Exhibits at the Glasgow Flower Show.

"(1) Remarkably fine *Honey Displays*.—Fair entries. Two extra fine. One too dark. The first prize, upwards of 200 pounds, contained a stack of *perfect* sections, and fine designs in cross and crown. The second, magnificent display of run honey and bell-glasses. The third, first-rate non-sectional supers.

"(2) A strong show of *Sections*.—Some with dash of heather honey. Very difficult to decide between the best. We prefer a mild-flavoured honey, what we might call a *blend*. Heather honey in sections not quite so perfect in form, but exquisite in flavour and aroma. Some lost places for lack of tidy 'get-up.'

"(3) *Run Honey*.—Fine lot of good stuff. The class for three jars strongly represented. As usual, difference of opinion on awards, but competent judges did their level best.

"(4) *Non-sectional Supers*.—These were the best I have yet seen. Prefer supers with glass, which can be examined all round, to those where top of honey alone is seen. Super of heather, in fine form, well shown. Small design, 'Scotia,' very good.

"(5) *Wax*.—Good single cakes. Prefer a bright yellow colour. Display good in form, deficient in colour.

"Perfect museum of the natural history of the honey-bee and its management on view."

Judges: Rev. Robert McClelland, Inchinnan; Rev. J. B. Robertson, Leswalt; Mr. Holms, Sandyford; Mr. Gordon, Glasgow.

Prize List.

Open Classes.

Most attractive display of honey.—1st prize, Wm. Wilson, Acrehead, Dumfries; 2nd, Ross & Kerr, Dumfries; 3rd, John M'Creath, Dumfries; com., James Henderson, Knockbuckle, Kilmalcolm.

Super of comb honey.—1st, Wm. Hogg Castle Douglas; 2nd, James Learmont, Balmaghie; 3rd, Sydney Roebuck, Dumfries.

Super of comb honey, not over 10 lbs.—1st, Wm. Wilson; 2nd, Hugh Jamieson, Hopeton, Glasgow; 3rd, Wm. Hogg; com., Sydney Roebuck.

Six sections.—1st, Ross & Kerr; 2nd, John M'Creath; 3rd, James Learmont; h.c., Wm. Hogg.

Twelve sections.—1st, Wm. Hogg; 2nd, Wm. Wilson; 3rd. Ross and Kerr; h.c., Symington, Coodham, Kilmarnock.

Three sections.—1st, Wm. Hogg; 2nd, Wm. Wilson; 3rd, Sydney Roebuck; h.c., Ross & Kerr.

Super of heather honey.—1st, Hugh Jamieson; 2nd, Sydney Roebuck; 3rd, John Muir, Castle Kennedy.

Best exhibit of heather honey.—1st, J. Scott, Dudgeon, Longnewton, St. Boswells; 2nd, John Muir; 3rd, James Henderson; h.c., H. A. Webster, Plevna, Gourock.

Display of comb honey.—Wm. Hogg.

Extracted honey, in jars not exceeding 2 lbs.—1st, J T. Nickels, The Day House, Shrewsbury; 2nd, Sydney Roebuck; 3rd, Wm. Wilson; h.c., John Muir.

Extracted honey, in jars not exceeding 2 lbs. each, the produce of bees kept in Scotland.—1st, Sydney Roebuck; 2nd, John M'Creath; 3rd, Wm. Hogg; h.c., George Symington.

Three jars extracted honey.—1st, John M'Creath; 2nd, Sydney Roebuck; 3rd, Wm. Hogg; h.c., George Symington.

Best display of British beeswax.—Wm. Wilson.

Single cake of beeswax, 2 lbs. weight.—1st, Wm. Hogg; 2nd, John Walker, Alexandria: 3rd, H. W. Seymour, Henley-on-Thames.

Best design in honey-comb.—1st, Wm. Wilson; 2nd and 3rd, Sydney Roebuck.

HONEY FAIR AT HEREFORD.

The ninth annual show of honey, under the auspices of the Herefordshire Bee-keepers' Association, was held in the Butter Market, Hereford, on September 6th, under circumstances which produced considerable success. This has been the best year for honey that has been experienced since the Jubilee year, and the yield is about the same, consequently the quality of the exhibits—which were more numerous than they have been for some time past—was rather above the average. The exhibitors—of whom there were thirty-two, the exhibits numbering sixty-five—aimed rather at quality than great bulk. Nearly two tons of honey were exhibited. There was a very fair demand throughout the day, the trade being more especially of a retail character, and the prices ranged from 9*d.* for run honey in bulk to 10*d.* and 1*s.* for honey in jars and sections. The judges were Dr. T. A. Chapman and Mr. J. H. Burt. Under the presidency of Mr. J. Rankin,

M.P., with Mr. A. Watkins as the able Hon. Secretary and Treasurer, assisted by Local Secretaries in different parts of the county, the Association is doing a highly useful work, and is to be greatly congratulated upon the success which every year attends the fair. The following is the

PRIZE LIST.

Best exhibit of honey not exceeding 200 lbs.—1st prize, J. H. Wootton, Byford; 2nd, M. Meadham, Hereford; 3rd, W. Tomkins, Burghill; h.c., R. Davidson, Byford.

Twelve 1-lb. jars of extracted honey (open classes).—1st, W. Tomkins; 2nd, Mrs. Blashill, Bridge Sollars; 3rd, W. James, Burghill.

Twelve 1-lb. jars of extracted honey (novices).—1st, W. James; 2nd, H. M. Mainwaring, Brimfield; 3rd, E. Charnock, Leintwardine.

Twelve 1-lb. sections of comb honey (open).—1st, M. Meadham; 2nd, Mrs. Blashill; 3rd, C. Turner, Byford.

Twelve 1-lb. sections of comb honey (novices).—1st, W. James; 2nd, E. J. Thomas, Hereford; 3rd, Joseph Pugh, Hereford.

Three combs of sealed honey in shallow frame.—1st, J. H. Wootton; 2nd. M. Meadham.

Best exhibit of honey in any shape (cottagers only).—1st, W. James; 2nd, W. Farley.—*Communicated.*

VALE OF LEVEN BEE-KEEPERS' ASSOCIATION.

This Association held its annual honey show in the Burgh Hall, Dumbarton, on September 2nd. In the honey section there were one hundred entries staged by thirty-one exhibitors, and the produce shown was very choice in quality.

The Rev. R. McClellan, Inchinnan, and Mr. James Johnston, Teugh, undertook the duties of judging, their awards being as follows:—

Twenty-one 1-lb. sections—John M'Gibbon, Luss.

Twelve 1-lb. sections.—1st, John M'Gibbon; 2nd, Alex. M'Gregor, Croftamie; 3rd, John Miller, Redhouse.

Six 1-lb. sections.—1st, John M'Gibbon; 2nd, John Miller; 3rd, Thomas Dingwall, Arden.

Best super, not to exceed 20 lbs.—1st and 2nd, J. M. Martin, Auchendennan; 3rd, T. Dingwall; h.c., W. D. Grant, Redhouse.

Super, not to exceed 12 lbs.—1st, Alex. M'Gregor; 2nd, James Buchanan, Jamestown; 3rd, John M'Intosh, Kilmarnock.

Six 1-lb. jars extracted honey.—1st, John Walker, Alexandria; 2nd, John Cameron, Boturich; 3rd, D. Richardson, Bonhill.

Beeswax.—1st, John Walker; 2nd, John Cameron; 3rd, John M'Lachlan.

Best bell-glass.—W. E. Gilmour, Woodbank.

Special silver medal for best super in show (non-sectional).—J. M. Martin.

Best hive made by an amateur.—Thomas Dingwall.

Open Classes.

Two 1-lb. sections.—1st and 2nd, W. Wilson, Dumfries; 3rd, Hugh Steven, Alexandria; h.c., John M'Gibbon.

Twelve 1-lb. sections.—1st, W. Wilson; 2nd, Alex. M'Gregor.

Six 1-lb. sections.—1st, W. Wilson; 2nd, Alex. M'Gregor; 3rd, Dugald Strathearn, Milton, Bowling.

Design in comb honey.—1st, W. Wilson; 2nd, John M'Gibbon.

AULDGIRTH (N.B.) B.K. ASSOCIATION.

The first exhibition of this newly formed Association was held in conjunction with that of the Auldgirth Flower Show on August 26th, and the *Dumfries Standard*, referring to it, says:—

"The most conspicuous advance made in any section, however, took place in the honey department. Formerly the number of competitors in these classes was limited; but with the formation of a bee-keepers' association for the district, and the holding of this branch of the show under the auspices of the new organization, the entries have, at a bound, risen to sixty-six. This says a good deal for the vitality of the young Society, of which Mr. Robert M'Naught, Burnhead, is Secretary. Through being affiliated with the Scottish Bee-keepers' Association, the Society has been presented with two of Lady Gibson-Carmichael's handsome silver medals."

Mr. Ross, Dumfries, acted as judge, and made the following awards:—

Best super.—1st prize, J. Thomson; 2nd, J. F. Hyslop.

Dropped honey, not less than 3 lbs.—1st, J. Boyes; 2nd, J. F. Hyslop; 3rd, J. Duff.

Three 1-lb. jars extracted honey.—1st and silver medal, J. F. Hyslop; 2nd, R. M'Naught; 3rd, W. Edwards.

Twelve 1-lb. sections.—1st and silver medal, J. F. Hyslop; 2, J. Duff.

Best design.—R. M'Naught.

Six 1-lb. glass jars extracted honey.—1st, J. F. Hyslop; 2nd, R. M'Naught.

Seven 1-lb. sections.—1st, R. M'Naught; 2nd, J. F. Hyslop; 3rd, J. Duff.

Crate of 1-lb. sections.—1st, R. M'Naught; 2nd, J. F. Hyslop.

Bell-glass.—1st, J. F. Hyslop; 2nd, J. Johnstone.

WARWICKSHIRE BEE-KEEPERS' ASSOCIATION.

A most attractive exhibition was held on the 5th and 6th September by the Warwickshire Bee-keepers' Association, in connexion with the county show at Solihull. The exhibition not only did credit to the bee-keepers of the county, but proved positively that through the agency of the Society a more widespread interest in

apiculture was being promoted. The bee-tent formed a feature of the show, and on both days attracted a large number of spectators. Mr. W. B. Webster, the expert, during each afternoon gave practical lessons on bee-driving. Mr. J. N. Bower, hon. secretary, and Mr. J. R. Ingerthorpe, assistant secretary, were present each day, and gave every attention to the comfort of the visitors. The judges were the Rev. E. Davenport and Messrs. Simkins, Burman, Summerskill, Foster, and Young; the following being the awards:—

Best stock of foreign bees. — 1st, W. B. Webster; 2nd, John Walton.

Best stock of English bees.—1st, John Walton; 2nd, A. W. Rollins.

Best and most complete hive.—1st, C. Redshaw; 2nd, W. B. Webster; 3rd, Thompson & Co.

Best frame hive.—1st, W. B. Webster; 2nd, C. Redshaw; 3rd, Thompson & Co.

Collection of appliances.—1st, W. B. Webster; 2nd, Thompson & Co.

Super honey from one apiary.—1st, J. Walton; 2nd, J. N. Bower.

Twenty-four 1-lb. sections.—1st, J. Walton; 2nd, E. C. R. White; 3rd, Mrs. Evans.

Twelve 1-lb. sections.—1st, A. Hughes; 2nd, J. R. Young; 3rd, E. M. Pearson.

Extracted honey.—1st, S. and E. Cooper; 2nd, C. R. Hinckesman; 3rd, James Simkins.

Beeswax.— 1st, J. Walton; 2nd, A. W. Rollins.

Cottagers' Class.

Super honey.—C. J. Grove.

Twenty-four 1-lb. sections.—1st, T. Grosvenor; 2nd, W. Nash.

Driving competition.—1st, J. Walton and R. French, equal; 2nd, A. W. Rollins.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THROUGH CANADA AND THE LAKES TO CHICAGO.

[1556.] I started from Philadelphia by the nine p.m. train on July 23rd for the World's Fair, Chicago, which, by the most direct railway route, is about a thousand miles. Wishing to see something of this country, and also of Canada, more than I could in rushing through in an express train, I first took a tourist ticket for *the round trip* to Jamestown, N.Y. State, in order to see the works of the Falconer Manufacturing Company, which I did, and, at a future time, I propose to give some account of these works and what I saw there. My ticket gave me the privilege of staying at Bethlehem, Waverley, Jamestown, and Niagara Falls, and returning by another route back to Philadelphia. The first 250 miles of the journey brought us to Waverley, and was gone over in the night, arriving there at 5.10 next morning. This part, which is most picturesque, I proposed seeing by daylight on my return journey, which I did.

From Waverley we had to change on to the New York, Lake Erie, and Western line of railroad, passing along the southern part of New York State, through Elmira, Corning, Addison, Hornellsville, Wellsville, Friendship, Cuba Olean, Carrolton, Salamanca, and Jamestown, arriving there about twelve o'clock. The distance from Waverley is 192 miles. The scenery is very fine and varied; the hillsides are covered with woods, and for the most part following the valleys, first of the Susquehanna river and then the Alleganny river, which rises in New York State and runs from Salamanca almost south through Pennsylvania to Pittsburgh, and thence into the Ohio river. For the greater part of the way the farming was anything but good, hoeing or weeding having apparently not been attempted, and nothing done since the sowing of the different crops, which were full of thistles and weeds. The scarcity of cattle and sheep was particularly striking along the greater distance in the valleys. Indian corn was in some places very fine, and evidently had a great share of attention. Much of the land used for grazing purposes had evidently once been a forest, and was studded with the stumps of large trees, which were not sufficiently decayed to be taken up without considerable labour. The fences round many of the fields were formed of the stumps of the trees laid on their sides, with part of the roots in the air. We passed through a good deal of forest land, where the hardwood timber, such as oak, ash, beech, maple, basswood, and walnut remain; but the pine timber has been almost in every case cut and cleared, as the stumps, which are from two feet to three feet high, show among the undergrowth. Not caring to spend two consecutive nights in the train, I made up my mind to sleep at Jamestown, and go on by the earliest train in the morning, that I might see all I could of the country. This gave me time to visit the Lake Chataqua and the pretty scenery round about the neighbourhood.

Jamestown is a prosperous and increasing town, several English firms having bought land and built factories there since the McKinlay Tariff Act prevented the possibility of sending

goods from England. By the early train I went to Buffalo (about sixty-five miles), the train for some distance running not far from Lake Erie, enabling one to have a good view of the lake. At Buffalo, which is an important city, I had about two hours to wait for the train to Niagara Falls, of which I made the most use I could in seeing the town and some of the public buildings. At two o'clock I started for Niagara Falls (about twenty-five miles), and arrived there just in time to catch the train of the Grand Trunk of Canada line at Suspension Bridge, which was waiting our arrival to take the passengers for Toronto. As I had to return this way, I put off staying to see the Falls until then.

Crossing over the Suspension Bridge, we could see the whirlpool rapids on one side of the bridge, and a portion of the American Falls on the other, and a most magnificent sight it was. This bridge connects the United States and Canada, and we were no sooner on British territory than our luggage was examined by the Custom House officers before we were allowed to go on. We had not proceeded many miles in Canada before there was a marked improvement in the appearance of the farming generally and of the crops, some of which were already cut, and one could almost imagine they were English cornfields we were passing through. The crops were good, and the cultivation left little to be desired, being very different to the majority of the farms I had at this time passed through in the United States. There were many well-grown orchards of peaches, apples, &c., well pruned, and as well cared for as they are in our own county of Kent.

The scenery of the country through which we went was very fine, occasionally getting fine views of Lake Ontario between the green woods and the undulating ground. This was particularly the case in the neighbourhood of the thriving town of Hamilton, through which we passed (it is situated in Burlington Bay at the west end of Lake Ontario), where the peach orchards were numerous.

We arrived at Toronto about half-past five, the train being late, and the last train for Owen's Sound, by which I had intended to continue my journey, had left about twenty minutes before our arrival. Near to the station I found the Walker House Hotel, where I engaged my bed, had dinner, and then took the round of the city upon the electric cars which appeared to be in general use. They go at a much better pace than the horse cars that we have in England.

In the morning (Wednesday) I was up and out betimes to see the Parliament House, which is only just finished. It is a handsome structure, built of a fine red sandstone, something like our red Mansfield stone, and is beautifully situated in a commanding position on high ground in the park, surrounded by fine trees and lawns.

The University buildings are also in the park, and have a very handsome appearance. I afterwards sought out Mr. John McArthur, of 881 Yonge Street, Toronto, who has a large apiary in the rear of his house, two other apiaries in the country, and a queen-raising establishment in Toronto Island, which is in the Lake of Ontario, about two miles from the city, and affords an excellent opportunity for breeding pure queens, and getting them mated with selected drones. I propose giving particulars of Mr. McArthur's apiaries and of the island on another occasion.

I left Toronto by the 5.25 train of the Canadian Pacific Railway for Owen's Sound. I have already, in my former letter (p. 324), told you of the kind invitation I had had to visit Mr. McKnight, and, after a five hours' journey, I arrived at Owen's Sound, and, although late, found Mr. McKnight waiting for me with his carriage to take me up to his house. His residence is most charmingly situated on an elevated plateau overlooking the town, with a magnificent view of the Georgian Bay, which is at the east end of Lake Huron.

The further particulars of my visit I will defer, as I am anxious to give some account of the British exhibit at the World's Fair.

On Saturday evening I left Owen's Sound by the splendid lake steamer, the *City of Collingwood* for Chicago. On Sunday we had service on board, and about one o'clock we arrived at Mackinnac Island, which is situated between Lake Huron (the area of which is 20,400 miles) and Lake Michigan (which has an area of 20,000 miles). We landed on this island, and spent about two hours there, and then proceeded on our way to Chicago. These lakes are nothing less than inland seas, and for hours no land could be seen, and at times are very rough indeed. On Monday, about one o'clock, we landed at Chicago, after having had a most enjoyable trip. Mr. McKnight having kindly introduced me to several of the passengers before leaving Owen's Sound, this added considerably to the pleasure of the voyage.

There was some little delay before we could land, having to wait for the Customs officers, but, this over, I lost no time in taking the train, the Illinois Central, to the vicinity of the Fair, where I had previously arranged for a bedroom in a private house belonging to relations of one of my sons' friends. I left my luggage, and was soon in the Exhibition.

The Exhibit of the B. B. K. A.

This is on the east side of the Agricultural Building, among the agricultural exhibits made by Great Britain, on the main floor, at the angle formed by two passages, in a good position, near the office of the Superintendent of the British Department in this building.

The staging consisted of a number of shallow shelves the height of the bottles, and about three inches above in addition, on which space was a dark label with the name and address of the exhibitor legibly printed in gold letters, the whole about eight feet high, these shelves forming steps one above the other, and mitring at the

angles. The bottles being uniform, and the honey *all nicely candied* (with the exception of one or two bottles which were fermenting, for which I substituted others) looked exceedingly well. They had no glass case or covering, but one of the assistants dusts the bottles every day. The certificates of the B.B.K.A., and the pamphlets in the glazed frame, were put on the stand below the honey, but the medals and the volumes of the *Bee Journal* were not exposed, fearing they might be stolen.

I saw several bee-keepers, among them Dr. Mason, who has charge of the Ohio exhibit; Mr. Hambaugh, president, and Mr. Stone, secretary of the Illinois State B.A.; Mr. Cutting, secretary of the Michigan B.A.; Mr. E. Whitcomb, president, and Mr. Chas. White, assistant, of Nebraska B.A.; Mr. Hershisher, in charge of the New York State exhibit; and some others. All spoke of the British exhibit in a satisfactory manner, and I think we may feel perfectly satisfied with the impression it is likely to make.

The World's Fair is a great success; the buildings are numerous, of great size, and are very fine from an architectural point of view, and the grounds and lagoons are beautiful and exceedingly well arranged.

I have seen all the exhibitions in England, including the first in 1851, and the last two held in Paris, and for magnitude and completeness of its appointments it far exceeds any of the others. No one can begin to realise its dignity and size unless it is seen. There was only one thing of which I complained, and that was the total want of colour in the buildings, and I could only regret that some of the French artists, who decorated the buildings at the last Paris Exhibition, had not been employed to put the finishing touches on the buildings, and so made them less trying to the eyes; the glare of so many and so large buildings was quite painful, and necessitated the purchase of tinted spectacles to avoid headache.

I propose to send a report of all the honey exhibits as soon as I have an opportunity of going over my notes.—JOHN M. HOOKER, *Philadelphia, September 5th*, 1893.

SOME FURTHER NOTES ON BEE-KEEPING IN THE TROPICS AND THE ANTIPODES.

[1557.] I learn from a recent copy of *Gleanings* that bees have been for some years successfully introduced in Tahiti. A French gentleman took a few colonies to this place in 1870, and in 1883 they had increased to 6000 colonies. (See *Gleanings* for March 1st) European bees have been introduced into other tropical places, among which I may name the Hawaiian Islands, tropical Queensland, Norfolk Island (semi-tropical), and Sumatra. I recently discovered that a Dutch gentleman has brought two hives of bees from Holland to Sumatra. Your readers are, of course, aware how profitable bees are in Cuba and Florida, the honey yield in these lands being enormous. A neighbour of mine in New Zealand had the honour of taking bees to the Tonga Islands (Friendly Group). His first lot were taken from Sydney, and arrived in good order at their destination; but they were looked upon with a sort of terror by the natives, who thought that a plague of stinging flies was being introduced. A native, having been stung by one of the bees, kicked the hive over in revenge. The queen must thus have been killed or injured, for all the bees died soon after this. This gentleman, however, nothing daunted with his first attempt, took some more bees from Auckland to those islands. About the same time a retired medical man took bees there. I am told that these bees have increased tremendously, and are now all over the islands, and honey is produced in great quantities, and in flavour surpasses our ordinary New Zealand honey.

This part of New Zealand where I am now residing, and in fact the whole of the land north of Auckland, is pre-eminently suitable for bee-keeping. We enjoy a fine climate, frosts are few and far between, and bees can fly all the year round, save in wet and windy weather. Bee-keeping on scientific and humanitarian principles has yet to make great strides. Most of the settlers keep bees in soap and other boxes; a square hole is made in the top of the box, and then a smaller box is placed over this as a super. In the fall of the year, when the smaller box is full of comb, they take it off, honey, larvæ, and all, and press the combs in a cheese-press. As a general rule, swarms are put into any old boxes that may be handy, placed on the ground, and left to take care of themselves. I have been at places where there were as many as fifty boxes of bees buried in rank grass, the wood of the boxes rotten with rain, and the bees dying from damp or foul brood. There are some honourable exceptions of men in this colony making their bees profitable. There is not a great sale for honey, and much of the honey one sees on tables is vile cheese-pressed stuff, with an odious foul-brood taste about it. Despite all this New Zealand will be one of the greatest honey-producing countries in the world. We need in this colony a little more enthusiasm in bee-matters, and some day there may be properly qualified experts appointed to instruct and advise amateurs in the art.

On page 216 of the *Journal* you have a few words to say on colonial honey. I agree that it fails to come near the British; but to residents in the colonies it is considered good, though it may be tainted with eucalyptus. I have often heard people say how much they like eucalyptus honey, and young colonials evidently appreciate it, to see the way they consume it. The honey from the Ti-tree (the Cordylline) has an unpleasant, rank smell, but it is certainly not nauseous to the taste. We have thousands of Cordylline trees in this part of New Zealand; but what is known to New Zealanders as the Ti-tree is the Mannha shrub, which covers wide tracts of hard clay-land, and which bears a pretty white blossom with a plum-coloured

centre. By the bye, I believe, from a medical point of view, eucalyptus honey is very valuable. However much I disliked it once, I must now confess that I have overcome that feeling, and am very fond of it.—W. H., *Paparoa, Kaipara, New Zealand, August 3rd*, 1893.

WORKING A "WELLS" HIVE.

[1558.] I assist a gentleman in the management of his bees, and he has asked me to write and get your opinion on the following plan, which I proposed. He is going to start a "Wells" hive with only one stock next spring, and I proposed that, instead of letting the bees swarm in order to stock the other side, that he should work the brood chamber up to twenty frames as quickly as possible by inserting frames of foundation in the middle of brood nest as often as the bees will work them out; and when he has got twenty full frames in brood chamber put in the "Wells" dummy. Would the bees raise another queen on the queenless side, and would this plan be as good, better, or worse, than letting one side swarm, and returning the swarm to the other side of dummy?—R. G. PEACOCK.

[Without admitting that you are going to improve on the original "Wells" method, and for reasons which it would take too much space to make clear, we would propose, as an alternative plan to both those suggested, that the bees should be worked up to fill, say, twelve frames well with brood by the time the honey-flow began, and then be supered in the ordinary way with, say, one box of ten shallow frames. Give no more surplus room, but let the bees swarm. Then remove the surplus chamber, insert the "Wells" dummy, and hive the swarm on the other side of it on full sheets of foundation (wired), and replace the surplus box. When the second swarm issues, hive it in a shep, and *next morning* return to where it came from. If swarm does not reissue, let the bees have access to the same supers as the first swarm are at work in.—EDS.]

MY EXPERIENCE WITH BEES AND A "WELLS" HIVE IN DERBYSHIRE.

[1559.] May I crave a corner to give my experience of bee-keeping since I commenced? In August, 1890, I bought a frame hive and stock of bees. In 1891 I took thirty pounds of honey from it and had a good swarm. Both wintered well. In 1892 I took sixty pounds of honey and got two swarms. All lived through the winter. In early spring, 1893, I placed all in clean hives, putting the weakest two in a "Wells" hive. On April 21st I supered all three hives, and, not wanting much increase in stocks, I took two frames of brood from each hive and formed an artificial swarm with them, giving them the ripest queen-cell I had. I replaced the frames of brood taken away with sheets of foundation to each hive, thinking it would check swarming. In July I noticed one side of the double hive was working much more than the other, so on the 17th, when taking the full super off, I opened the brood nest, and found one side weak and queenless. I put the queen into the weak side, replaced the excluders (exact this time, as I found it was through these not fitting that the queens had got together), thinking the strong side would raise another queen from the eggs left, but they have not done so. I have, therefore, partly failed this year with the "Wells" system, for, practically, it has been a very strong single-queened stock since April. The artificial swarm has increased to eleven frames. I never supered it. On September 4th I found it very strong with bees, but no eggs, and the last of the brood hatching out. It is queenless, I think, so, unless I can buy another queen, I shall unite it to one of the other stocks. How the queen got lost I don't know, as it has not been opened since the beginning of June.

However, 1893 has not been a failure with me for all that. I have had no natural swarms. I have three strong stocks to go into winter with, have taken 350 pounds of extracted honey and eighteen sections, ten filled and eight partly, weighing in all fifteen pounds, and I think that very good for an amateur. I may say my bees are a quarter of a mile from where I live. I make all my own hives, but buy the frames. I hope all other bee-keepers are as contented as—HARRY WALKER, *Killamarsh*.

BEES SWARMING IN SEPTEMBER AND DESERTING BROOD.

[1560.] Last Wednesday, having a weak stock with no queen, and three queen-cells sealed over, I drove about four pounds of bees with a queen into the hive, and they all, apparently, peaceably settled down. The following morning the bees were attacked by robbers, and I did not observe any disposition on their part to assume the defensive. I then narrowed the entrance, and placed a pane of glass at an angle in front, but this had no effect. The robbers entered the hive in hundreds, and many wasps also found their way in with them. I then tried the carbolic cloth defence, but this, too, proved futile. Later on in the day I had occasion to be away, and during my absence received notice that the whole of the bees had swarmed out of the hive, and, on my return the next morning, found that they had actually deserted the young brood. Now, I think this a most extraordinary occurrence. The swarm had first settled on a raspberry-bush near the hive, and from thence had flown to a neighbouring deodara, hanging down in two large clusters, from which the gardener secured them in two separate boxes, and I should say there were in all fully nine pounds of bees, which certainly is a large swarm. But the most remarkable circumstance is the desertion of the young brood.

In connexion with the above fact of bees swarming in the middle of September, I may mention that a neighbour, who is a large bee-keeper, informed me that he likewise had a small swarm the day after that which I have described.—JOHN J. KER, *Ware, Herts, September 16th.*

DO BEES GATHER POISONOUS HONEY?

[1561.] Many thanks for your exhaustive and lucid reply in the *Bee Journal* (p. 352) to "Lily White's" aspersions on our domestic pet, the honey-bee, which I doubt not will have a good effect. In this small village we have fourteen members of our "Co-op." (owning, say, sixty stocks) who are keepers of bees, and this number would have been increased this year if we had had swarms; but out of my stocks (seven) I have not had one!—C. EMERY.

Queries and Replies.

[888.] *Stocking a "Wells" Hive.*—I have a stock of bees in one division of a "Wells" hive. 1. Would it be advisable to transfer a stock from another hive to fill up the other division, or wait till next spring for a swarm? 2. The hives are twenty yards apart, and if I transfer, should I have to move the hive? I want to transfer towards the other gradually, or would it do to transfer them straight off? 3. Would not the bees in the "Wells" hive winter better if both divisions were full?—J. E. BROWN.

REPLY.—1. We should transfer the second stock as soon as convenient. 2. It would be safest to bring the two hives together before transferring. 2. Yes, decidedly.

[889.] *Re-queening.*—Would you kindly advise me through the medium of your valuable paper (1) whether a queenless stock would destroy its drones the day after it lost its queen? I had three stocks with nuclei standing by their sides with young queens; yesterday I caught and killed the old queens in the stocks, and united the nuclei with the young ones. Half an hour afterwards I discovered one of the young queens thrown out of the hive and killed! There was also some amount of fighting at the entrances of all the hives, and about 300 bees were killed. 2. Is this a usual occurrence? 3. What is the latest time it is safe to introduce a queen, and is it safe to introduce a queen to a hive after it has been queenless a week or ten days without destroying queen-cells?—A. SMITH, *Robertsbridge.*

REPLY.—1. No. The instinct of the bees impels them to preserve their drones when queenless. 2. Not if proper precautions are taken in introducing the young queens. 3. It is safest to destroy the queen-cells before introducing. Queens may be introduced at any time when the weather is warm enough to admit of the bees flying.

[890.] *Age of Queens—Making "Wells" Dummy.*—1. Could you tell me what an old queen of two or three seasons looks like? Would her wings be in perfect condition, as in young bees, or would they be ragged and worn, as in an old worker-bee? I ask this because, when I went to depose a queen that I supposed was three seasons old, I was surprised to find that her wings looked so fresh and perfect that I came to the conclusion that the bees had re-queened themselves, and so I have let the queen stand over for another season. Do you think I did right? 2. I have a hive that was quite empty of honey, comparatively speaking, at the end of July last; but now the combs are almost nearly all full of sealed honey, except a little space at the bottom of each. Will this hive do as it is, or shall I have to put in an empty comb for the queen to lay in, and would it in this case be as well to do without any candy during the winter with such a hive as this? 3. My Wells hive's dummy is, like everybody else's, propolised up; but I have now discovered that it is not of the right kind. It is a great pity that directions were not given to amateurs on such an important point.—SYRUP.

REPLY.—1. As a general rule, the age of a queen may be guessed fairly accurately by experienced bee-keepers; but it sometimes happens that an old queen will have her wings in good preservation. There is no fixed rule to guide amateurs. If the queen's laying powers are satisfactory, no doubt you did well to keep her. 2. No need to provide "an empty comb for queen to lay in," and no candy is required if there is plenty of natural food. 3. Very full instructions for making the "Wells" dummy have appeared in our pages, and if amateurs go wrong in making, the fault is surely not ours.

[891.] *Wintering Driven Bees.*—I have two hives of bees in frame hives, from which I have taken all supers and extracted the honey, leaving only the frames in bottom chamber in the hive; and as I want to increase my stock, can I do so by using the supers I have extracted the honey from, and buying bees as advertised in your *Journal* at 1*s.* 6*d.* per pound, including queen—or what way do you think best?—THOS. GREENSILL, *Birmingham.*

REPLY.—If the frames from which the honey has been extracted are same size as those in brood chamber, driven bees may be put on them and fed up for winter as proposed.

Echoes from the Hives.

Honey Cott, Weston, Leamington, September 16th.—At present the drought continues, although the bees are much on the wing, in consequence of the fine weather. I have seen a few at times loaded with pollen. Wasps are

beginning to trouble the bees, entering the hives in the cool of the morning to steal. For nearly three weeks the wasp nuisance abated, but previous to that it was difficult to take a look inside a hive. They also found their way into my honey-house, where the bees could not. I destroyed over forty nests within half a mile of my apiary, and lately there have been many queens about; I found a lot hidden away among some timber. For a change I have got five stocks in straw skeps, having cleared out the apiary of a lady friend who got rather afraid of bees. The bees in one division of a "Wells" hive lost their queen, so I shook them off the comb, where a few remained to keep possession, and they went into the stock on other side of dummy. I found the latter entirely propolised up: it was the one that I burnt the holes larger. I ought, however, to say it was not a real "Wells" dummy, because it is three-eighths of an inch thick, and the holes are countersunk on each side. About a month back I made up five stocks with driven bees, which have bred and done well. I also gave them some sealed frames of honey on the outside of the brood nest. I do not think I ever saw bees lay out so much in August before as mine did this year. One day the heat was 90° in the shade, but unfortunately there was no honey to gather. Referring to what appeared in the *Journal* (p. 365) about excluder zinc, I should not like to do without it; either for comb or extracted honey. I think it is invaluable.—JOHN WALTON.

Bee Shows to Come.

September 23rd. — Roxburghshire B.K.A. annual show of bees, honey, and appliances, in the Corn Exchange, Jedburgh. Twenty-four classes, including seventeen for honey. Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh, N.B.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. W. C. Young, Secretary, Dairy Farmers' Association, 191 Fleet Street, London. Entries closed.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

LEONARD SMITH. — *"Wells" Dummy.* — We thought our opinion of the dummy sent was conveyed by the concluding remarks in our footnote. It is infinitely better than many we have seen, but if you would take our hint, and get a dummy from Mr. Wells, it would help you to understand the difference.

G. JORDAN.—1. The insect sent is commonly known as the humming-bird moth. 2. In some districts, and in some seasons, bees collect a fair amount of honey from ivy, but it is not of good quality.

W. D. N.—*Removing Combs.*—1. Comb is perfectly healthy, and contains nothing but wholesome pollen gathered by the bees. 2. Combs may be used for four or five years. It is a good plan to renew two or three every year by removing faulty ones whenever found, and substituting full sheets of foundation. When weather is warm, about end of May or early in June is the best time.

B. B. J. R. (Caterham).—*Food for Winter.*—1. Five well-filled frames of sealed honey and two empty combs will do well for wintering on. 2. Queens are not always "attended" by workers, as some suppose. 3. Ligurian queens are light in colour compared with ordinary bees: the upper rings of the abdomen are quite different in colour to native queens. 4. We should prefer dispensing with the space below frames in winter to raising them up on blocks of wood as proposed, as it would be nearly impossible to keep the bees warm if so dealt with. 5. Yes. 6. We should prefer to keep the empty combs indoors during winter. They would be likely to get mouldy or infested with moths if left in the unoccupied part of the hive. In other respects the bees should winter all right.

A BEGINNER (Lincoln).—*W. B. C. Hives.*—The intervening space between the outer case and the hive proper is a sufficient protection in winter; but it is advantageous—though not absolutely necessary—to pack the space with loosely crumpled newspapers when pushing on early breeding in spring. The half-inch material is quite thick enough. Any one can make the hive without "infringement."

ALBERT P. JOLLYE.—*Market for Honey.*—We know of no better medium for finding a market than our "prepaid advertisement column."

REV. R. SMYTH.—See reply to G. Jordan.

E. R. B. (Tenterden).—It is impossible for us to say why the bees in skep are carrying out dead brood. You should endeavour to get the opinion of some bee-keeper who could examine the skeps.

E. C. R. WHITE.—*Prizes at Shrewsbury Show.*—If you will kindly get the Secretary to make the correction and forward to us, we will rectify the omission, but our prize list was copied from what we understood to be the "official" one. In the second case, also, we gave the initials as sent, so the error was not ours.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The usual monthly Committee meeting was held at 105 Jermyn Street, on Wednesday, September 20th. Present: T. W. Cowan (in the chair), Hon. and Rev. H. Bligh, Rev. Dr. Bartrum, Rev. G. W. Bancks, W. H. Harris, Major Fair, J. H. New, E. D. Till, W. J. Sheppard, W. B. Carr, J. Garratt; W. O'B. Glennie, Treasurer, and Miss Eyton, *ex-officio;* John Huckle, Secretary.

The minutes of the last meeting having been printed and circulated, were taken as read and signed. Letters were read from the Rev. L. Williams, Colonel Elliston, and Mr. A. D. Woodley, and dealt with; also one from Mr. Charles Valentine, Department of Agent-General for New South Wales, the Secretary being instructed to refer Mr. Valentine to the Statistical Department of Her Majesty's Customs for information in regard to the importation of honey.

The Chairman reported that he had received a letter from Mr. Hooker respecting the honey exhibit at Chicago, and he had arranged for its sale.

In accordance with the resolution passed at the last meeting, a circular letter, as drawn up by Mr. McClure and the Secretary for sending to the several Agricultural and Horticultural Colleges was submitted, and it was resolved that it be referred to the Educational Committee for consideration and report, as was the report of the Northern Associations Sub-Committee relating to the appointment of examiners. Miss Eyton suggested that the appointment of Assistants to the Judges at the Exhibitions of the B.B.K.A. should also be added as a recommendation to the report. This being agreed to, it was resolved that this part of the report be referred to the Exhibitions Sub-Committee.

Third-class certificates were signed in favour of Henry Joyce, Ashby de la Zouch; Henry Hensleigh, West Kensington; Major Fair, Teddington.

The Exhibitions Committee reported that they had had under consideration the prize list of the bee department of the Royal Agricultural Show of 1894, and they recommended, among other things, that in making their awards for the "best Bingham Smoker," the judges' attention be called to the desirability of awarding the prizes to the exhibits which most conform to the pattern of a "Bingham Smoker" in every particular; and that in the miscellaneous classes the exhibitors be required to furnish a written description of each exhibit for the guidance of the judges.

Other matters of a purely business character being dealt with, the meeting terminated in the usual way.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The third honey show of this Association for the present season was held in the Waverley Market, Edinburgh, on the 13th and 14th inst., in connexion with that of the Royal Caledonian Horticultural Society, and we are glad to record it was a complete success. Along with the prize list we have again been favoured with some "notes" on the show by our esteemed correspondent "C. M. B.," as follows:—

Some Notes on Edinburgh Honey Show.

Another cheering exhibition of bee-produce. The honey displays, although good, were not by any means up to the Glasgow ones. Probably the strongest department was that of the non-sectional supers of flower and heather honey; these were alike very numerous and very fine. The judges did their level best, but it was a ticklish job, where all were so very good. In designs in honey-comb much the same exhibits were staged as in Glasgow, with much the same results. In extracted flower and heather honey there were some splendid exhibits. In some instances the consistency was perfect, and—the colour, aroma, and flavour corresponding—we should venture to think it hard to beat anywhere in the world.

The judges objected to certain exhibits entered as one-pound bottles, which they considered to be only fourteen-ounce bottles, if even that. Exhibitors would do well to avoid this. The comb honey was good, the heather sections in particular reaching high-water mark. Some failed to win that in a less favourable season would have stood very high. The wax display was meagre in the extreme, but the first

prize cake was a fine specimen indeed. In the confectionery department the first prize was won by the best honey cake we have ever tasted, and we would recommend some leading confectioner to take it up. The judges were—Rev. R. McClelland, Inchinnan; Dr. Murray, Galashiels; Mr. G. D. Gordon, Glasgow; Mr. G. D. Clark, Haddington.—C. M. R.

PRIZE LIST.

Display of comb and extracted honey.—1st prize, John M'Creath, Dumfries; 2nd, Sidney Roebuck, Dumfries.

Design in honey-comb.—1st and 2nd, William Wilson, Dumfries; 3rd, Sidney Roebuck.

Non-sectional super.—1st, James Learmont, Castle Douglas; 2nd, William Hogg, Castle Douglas; 3rd, William Wilson.

Super of flower honey (over 20 lbs.).—1st, William Hogg; 2nd, William Wilson; 3rd, Sidney Roebuck.

Super of flower honey (over 10 lbs.)—1st, William Hogg; 2nd, James Christie, Glasgow; 3rd, William Wilson.

Super of heather honey (not over 20 lbs.)—1st, David Mitchell, Selkirk; 2nd, Thomas Mitchell, Selkirk; 3rd, James Mitchell, Selkirk; h.c., James Christie.

Super of flower honey (not over 10 lbs.)—1st, 12*s.*; 2nd, 6*s.*; 3rd, 3*s.*—1st, William Wilson; 2nd, Wm. Hogg; 3rd, Wm. Wilson.

Super of heather honey (not over 10 lbs.)—1st, James Christie; 2nd, James Whillans, Jedburgh; 3rd, John M'Donald.

Octagonal super of flower honey.—1st, Sidney Roebuck; 2nd, William Wilson.

Straw super of heather honey.—1st, Sidney Roebuck; 2nd, James Henderson.

Twenty-one 1-lb. sections.—1st, William Wilson; 2nd, James Learmont; 3rd, William Wilson.

Twenty-one 1-lb. sections of heather honey.—1st, John McDonald, Kingussie; 2nd, James Henderson, Kilmalcolm.

Twelve 1-lb. sections.—1st, Wm. Wilson; 2nd, Jas. Learmont; 3rd, S. Roebuck; h.c., Wm. Hogg; com., J. Palmer, Ludlow.

Twelve 1-lb. sections of heather honey.—1st, J. McDonald; 2nd, D. Moffat, Ettrick, Selkirk; 3rd, Mrs. Dodds, Melrose; h.c., C. N. Craik; com., J. Watt, Melrose.

Twelve 2-lb. sections.—1st, Wm. Wilson.

Six 2-lb. sections.—1st, Jas. Learmont; 2nd, S. Roebuck; 3rd, J. McCreath.

Six 2-lb. sections of heather honey.—1st, J. M'Donald; 2nd, C. N. Craik; 3rd, Wm. Weir, Heriot.

Three 2-lb. sections.—1st, Wm. Hogg; 2nd, Wm. Wilson; 3rd, J. McCreath.

Thirty 1-lb. jars extracted honey.—1st, S. Roebuck; 2nd, Wm. Wilson.

Thirty 1-lb. jars extracted heather honey.—1st, Jas. Henderson.

Thirty 1-lb. jars extracted honey.—1st, S. Roebuck; 2nd, J. McCreath; 3rd, Wm. Wilson.

Twelve 1-lb. jars extracted honey.—1st, S. Roebuck; 2nd, J. T. Nickels, Shrewsbury; 3rd, Jas. McCreath.

Twelve 1-lb. jars extracted heather honey.—1st and 2nd, J. Muir, Castle Kennedy; 3rd, S. Roebuck.

Six 1-lb. jars extracted honey.—1st, Wm. Hogg; 2nd, J. T. Nickels; 3rd, Wm. Wilson.

Three 1-lb. jars extracted honey.—1st and 2nd, Wm. Hogg; 3rd, S. Roebuck.

Beeswax.—1st, Wm. Hogg; 2nd, Jas. Mulgrew, Milton of Campsie; 3rd, Jas. Whillans.

Cake containing honey.—1st, Mrs. Andrew Buckan, Musselburgh; 2nd, Miss Jenny Aimers, Melrose; 3rd, Jas. Mulgrew.

HONEY SHOW AT BROSELEY, SHROPSHIRE.

The annual show was held on August 30th and 31st, in connexion with the Horticultural Society of the district, and proved an immense success. Over four hundred pounds of honey was staged in excellent style, the "get-up" of the exhibits being much admired. The quality of the honey in this district is equal to any in the county, the leading bee-keepers striving to place before the skeppist the great advantages of the new system. In beeswax, also, the competitors staged their exhibits in the most approved style. Miss Eyton, of Wrockwardine Hall, hon. secretary to the S.B.K.A., visited the show on the first day, and expressed her extreme satisfaction with the exhibits. Mr. Thos. R. Horton, Harley Towers, officiated as judge, placing the awards as follows:—

Honey in any form.—1st, P. Scott; 2nd, E. Oakes and G. Fisher, equal.

Twenty-four 1-lb. sections.—1st, P. Scott; 2nd, G. Fisher.

Twenty-four 1-lb. jars extracted honey.—1st, P. Scott; 2nd, E. Oakes; 3rd, G. Fisher.

Beeswax.—1st, P. Scott; 2nd, G. Fisher; 3rd, Emmie Fisher.

Cottagers' Classes.

Six 1-lb. jars extracted honey.—1st, Emmie Fisher; 2nd, Mrs. A. Scott; 3rd, Mrs. P. Scott, sen.

Six 1-lb. sections.—1st, Emmie Fisher; 2nd, E. Oakes, jun.; 3rd, Mrs. P. Scott, sen.

Best exhibit of honey in glass.—1st, Mrs. P. Scott, sen.; 2nd, Emmie Fisher.—*Communicated.*

NOTTS BEE-KEEPERS' ASSOCIATION.

The seventh and last Exhibition arranged by the Notts Bee-keepers' Association for the season was held at Moor Green on September 5th in superb weather and under favourable auspices, which resulted in a very large attendance. The exhibits were both numerous and decidedly good, reflecting credit on the Society and its excellent Secretary, Mr. Pugh, who was assisted by the Steward, Mr. A. Warner, Mrs. Warner, and other

friends. Addresses given in the bee-tent by Mr. C. N. White were listened to by large numbers with evident interest. Mr. White also acted as judge of the honey department.

List of Prizes.

Twelve 1-lb. sections.—1st prize, P. Scattergood; 2nd, H. Wiggett; 3rd, M. Lindley.

Twelve 1-lb. jars extracted honey.—1st, C. Wootton; 2nd, T. Letchfield; 3rd, J. F. Simpson.

Best exhibit of bees.—1st, A. Warner; 2nd, A. J. Mortimer; 3rd, H. Wiggett.

Best bell-glass super.—1st, A. Warner.

Best frame of honey in comb.—1st, J. F. Simpson; 2nd, G. Reeve; 3rd, M. Lindley.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

Amount already acknowledged	£43	6	0
W. H. Harris	1	0	0
J. Desmorr	1	0	0
Christopher Wade ...	0	4	0
John Bradley	0	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FINDING QUEENS IN AUTUMN.

[1562.] In *B.B.J.* for August 24th (p. 336) there appears to be one who has had the same difficulty as myself in catching queens, and I give below my plan, which has worked quite satisfactorily:—

After several attempts to find queens in autumn, and meeting with failure, I adopted the following plan:—The hive containing the queen I wish to find is lifted from the floor or bottom board, and a new one put in its place. The old hive is then brought forward and reversed, so that its entrance faces that of the new hive. Leave a space of one foot or more between the hives, and place a drone-trap (which is also a queen-excluder) in front of new hive, the excluder or trap to be reversed so that the queen is trapped in her efforts to enter the hive. Now lift the frames carefully from the old hive, and brush off the bees in front of new one, placing the frames, as they are cleared of bees, in the new hive in the same order as in the old one. At this point I find it necessary to use smoker and brush (the brush I use is a turkey's wing feather) to hurry them along, which is quickly done and the queen trapped. Remove the trap to some safe place, and the queen is found without difficulty.

When I go through this operation of finding the queen, it is for the purpose of re-queening, and the bees are in the right state to receive the new queen, for, as I remove the frames from the old hive, I spray them with a mixture of water, peppermint, and sugar. Spray the bees also as they enter the hive. When you have the old queen safe in the trap, and your bees are wet with the spray, give the new queen a sprinkling from the spray, and place her at the entrance of the hive. She will enter and be received with favour.

This manner of introducing queens is the one recommended by James Hadden in his *Success in Bee-culture*. Straining out the queen may be practised by others, but, if so, I do not know it; but this I do know, it saves much time in hunting queens in autumn. This applies to black queens only. I find no difficulty in finding the yellow bands at any time.—Clark Chatfield, *Seymour, New Haven County, Conn., U.S.A.*

WIDTH OF SHALLOW FRAMES IN SURPLUS CHAMBERS.

[1563.] Will you kindly allow me to call the attention of readers of the *Journal*, and especially the attention of our leading bee-men, to the above subject, in the hope that it may lead to a discussion on the matter, and, if possible, guide our leading bee-appliance makers, and, if needs be, the Committee of the British Bee-keepers' Association, in suggesting to the bee-keeping fraternity what is the best width to work shallow bars.

In the report on the honey classes at the Royal Show at Chester, July 6th (p. 263) you said, "Nothing in honey production can, to our mind, surpass a well-finished shallow frame of good honey; it far excels a single section in beauty." I quite endorse all this, but I would like to add that if they are worked at a distance of two inches from centre to centre, instead of the usual one and a half inches, they do surpass sections, and by a very long way those frames that are worked out at one and a half inches. But I suppose here is the *crux* of the whole matter, and about which there seems some diversity of opinion—as to whether the new metal end should be two inches, or more or less. Personally, I favour the two-inch end and a

five-inch deep shallow bar; then I can work either W.B.C. hanging-section crate, or shallow bar, or a combination of both if wished; and I have seen in this county (Notts) a number of frames taken from hives this season, and worked with two-inch ends, that were a perfect picture, while the gain to the bees in capping, and to the bee-keeper in time and honey, as pointed out by friend Woodley (1506, p. 304, in *Journal* of August 3rd) is very great indeed.

In this county one of the members of the Notts B.K.A. has hit upon a novel plan. He makes the top bar something after the plan adopted in the W.B.C. hanging-section crate, and exactly the same width, viz., two inches; the sides or ends of the frames are one inch and seven-sixteenths wide, and the top bar and sides are grooved to receive the foundation; the bottom strip is one inch wide and three-sixteenths thick, and the bees have plenty of room to get to their work.

Another plan adopted by a second bee-keeper here for several years past is to place strips of wood one-half inch square and seventeen inches long between each W.B.C. end, and thus make the ordinary bars have two-inch ends; and he tells me that he has had splendid results from this method. The bees have built the combs out the extra width, and, while having less frames in number, he has had a larger quantity of honey.

I could say more, but I think perhaps I have trespassed enough on the editors' space and patience, so leave what I may have to say further to another issue.—HEMLOCK STONE, *September 18th*, 1893.

[The maker of the W.B.C. end is, we believe, now engaged on the subject of a wider end for shallow frames which will meet the requirements of the case, and it is certain that before next season such ends will be put on the market. Personally, we have always taken means to have heavier combs in surplus chambers than the ordinary "end" made provision for, by inserting slips of wood between each frame. Our own idea would be to make the new end of such a width that eight frames would occupy the ordinary shallow-frame box now holding ten frames. We hope to bring the matter up at the next meeting of the Committee of the B.B.K.A.—EDS.]

NOTES BY THE WAY.

[1564.] Mr. Hooker's report of the British honey exhibit at Chicago must be very gratifying to the contributors to that exhibit. That only one or two bottles were fermenting is most satisfactory, and speaks well for the selection by the many bee-keepers who responded to the request of the B.B.K.A. last year to enable them to make a representative exhibit from Great Britain of extracted honey. I am sorry the risk and expense of sending an exhibit of comb honey was so great, otherwise I feel sure we should have surprised our American brethren in the craft with the excellence of our product in sectional super honey, and our patriotic designs in honey-comb.

I run two considerable apiaries principally for comb honey, and I can assure Mr. L. Smith that I have no use for excluder zinc, and although I often super on nine frames (standard size), I do not have one per cent. of broody sections, not even this season when the brood combs were more or less clogged by the influx of early honey. I know my friend Mr. J. Walton uses it throughout his large apiary, and I believe the principal reason he uses it under section crates is to prevent brace combs being built between the tops of frames and bottoms of sections. I myself always use it under the few boxes of shallow frames, and I would commend its use to Mr. Smith notwithstanding Mr. Simmins' contention that more honey would be stored by the bees without than with the excluder zinc. A few extra pounds of honey at the end of a season will not compensate for the knowledge to the bee-keeper through the whole honey harvest that his supers are free from brood, and that so soon as they are sealed the box of honey can be removed and stored or extracted at will without the bother of returning two or three, perhaps four or five, of the central combs for the brood to hatch out, only to find in another fortnight the same combs refilled with eggs and larvæ, perhaps in a smaller space, yet enough to prevent the removal of them to the honey-room or extractor, as I trust there are now very few bee-keepers who would think of extracting honey from combs that contain brood in any stage of growth.

I quite think there is an opening for some inventive genius to bring out a "Wells" dummy that the bees will not propolise. I suppose a vegetable ivory or xylonite would be too cold during the winter months to allure the bees of both colonies to cluster for mutual warmth as one united happy family in a round bed, or would the latus felt be too odoriferous if perforated and stretched in a metal or wood frame? Oh, by-the-bye, I remember Mr. Abbott, when editor of the *B.B.J.*, advocating hair cloth as first quilts next to frames as a material the bees could not gnaw. Would not this hair cloth be just the thing to separate the two colonies in a "Wells" hive? If that won't do, what of some small tin ferrules inserted in the holes? I have a few passage-ways for winter formed by inserting a small coil of tin in the brood combs, and they have not been filled yet with either wax or propolis, although in use eight or nine years.

Is this propolising the holes in the dividing dummy only a natural instinct of the bee to make the *dulce domum* taut and draught-proof, or must we take it that they wish to boycott the bees on the other side, *i.e.*, hold no communication with them?

Early Granulation of Honey.—I can only advise Mr. "R. P. W." (1548) to feed the granulated honey to the bees if he particularly wishes to preserve the frames of combs, though the combs in these days of foundation are not of so much value as of yore.

should mash up the lot together, and apply gentle heat till liquefied, then strain and bottle off; if heated only just enough to strain through muslin and strainer-cloth, the honey will not be injured. Then another season, give full sheets of foundation, and you will quickly have new combs. If "R. P. W." will give his mode of working his straw skeps for sections, perhaps some one may be able to give him a few hints.

From reports in the American bee journals, the "Langdon" non-swarming device has not proved a success in American apiaries during the summer. Our friends have had a swarming season, and the bees persisted in swarming—devices notwithstanding.

Mr. Root advises, when working in the apiary, that the very busy bees, who are always on the alert to slip into the hive as soon as the quilt is removed from a frame, should have employment found them to clear up some extracted combs put into a hive, and the entrance contracted to admit only one or two bees at a time. By this method he avers that work can be carried on in the apiary as pleasantly as when a honey-flow is on.—W. Woodley, *World's End, Newbury.*

BEE-NOTES FROM SCOTLAND.

[1565.] In the *Bee Journal* of August 31st (1540, p. 348) I sent you some bee-notes respecting a double hive which I made last winter and stocked in March, and what I am now about to write refers principally to one end of that hive, which I called No. 2. Instead of swarming, that hive took possession, and put a great deal of honey and pollen into an outside hive, which had been placed ready for a swarm. Though this hive yielded ninety pounds of section honey in addition to the honey in No. 2A, which was afterwards mostly robbed by wasps and robber-bees, I was always doubtful about it. I need not notice the little signs which induced me to think that the queen was to blame; but, though I do not like interfering with queens, yet I felt, if the bees did not do it themselves, a change must be made before winter. Fortunately a neighbouring bee-keeper, who was about to smother all (to him) useless stocks, came and asked me if I wanted any "beeses," as he was going to smoke two or three small casts. I gladly accepted his offer of one, and fed it up, and added another small cast to it, and it is now ready in case of an emergency. Subsequent events, which I will now describe, show that this is not wanted at present. I made an examination of No. 2 hive. I may as well now state the construction of the hive. The total length was four feet six inches. This length was fixed upon so as to fit certain fixtures already in the bee-house. Each end holds fifteen frames, and the entrances are at the ends. Each division of the hive has two compartments. The compartments next the entrances held six frames placed across the entrances, then came a spaced division, and then nine frames and a dummy with their ends against the middle division. Each compartment has separate roof-covers, and each has also underneath two drawers, the top ones with perforated zinc bottoms, and the lower ones with dry peat moss, with a ball of crushed naphthaline in each. These drawers, of course, add to the expense of a hive, but to amateurs they are of great value. I have been able, all this hot summer, to keep the lower drawer more or less open, and as the bees cannot get out that way, they get plenty of air, and the main entrance can be kept small, and thus prevent the inroads of wasps.

To return, however, to No. 2 hive. In order to quieten the bees I placed a carbolised cloth over the outer division of the hive (six frames). The result was that most of the bees under that division came out, being next to the entrance. Some of them extended to a distance of twenty inches. I found some little brood, which satisfied me that the queen was fertile, but the main part of the brood in both hives has always been against the middle division, which I did not disturb. I closed all up again and left them expecting the bees to return, but they did not. When I came back, in twenty minutes, I found a cluster of bees and a balled queen. She was lively, however. In my former letter I was doubtful from what source she came. I am now satisfied she came out of No. 2 hive. Her wings were all torn, and she was subsequently killed. The bees of No. 2 had evidently intended to put her out sooner or later, as within a fortnight they had a young fertile queen. They have begun to kill the drones, and pollen is coming in, which previously had almost ceased.

I am afraid I am inflicting rather long notes, but I may as well state how I am going to manage the wintering. I am placing all combs with brood in them in the outer compartments of each hive, so that the two stocks will keep one another warm. The outer six-frame division will be filled with wooden dummies, as soon as all hatching in that part has ceased. I have made sure that the queens are now in the nine-frame divisions. The bees pass under the dummies, and can only get into the nine-frame divisions by a four-inch-wide entrance from the six-frame compartment. Though this construction of hive was brought about by accident, I am more than satisfied with it. In the spring the dummies will be gradually removed and replaced by clean combs, as I see breeding progressing.—F. McC., *Ecclefechan, September 15th.*

MY EXPERIENCE WITH A "WELLS" HIVE.

[1566.] Being a constant reader of your *Journal*, I have perused with much interest the notes appearing therein as to the successful season, the working of the "Wells"-hive system, &c., and take the liberty of sending a cutting from this day's *Scotsman*, which gives a general idea of

the favourable season in the south of Scotland, and will add a few remarks as to the season, &c., in the north-eastern part. Of the season generally, I may say it has been the best since 1887, particularly so as regards heather honey, and bee-keepers are invariably well pleased with their harvest. Some have been signally successful: for instance, I heard of a bee-keeper who was late in sending his hives (about twenty) to the hills, and who only got six working days, having taken off over three hundredweight of heather honey, leaving sufficient winter stores. I had six at the heather, and brought them home loaded—with supers all full and brood nest also—filled from side to side.

Like many others, I caught on to the "Wells"-hive system, and, having a double hive, with only one stock in it, I resolved to give the new plan a trial. I prepared a perforated dummy, put on queen-excluder, fitted up the one end of double hive with full foundation and a few good combs, and wrought up the stock. On the 3rd July I got a splendid swarm, and had it carefully hived in the other end, specially prepared, and concluded all was right. At the end of four days, however, I discovered that the bees had returned to the mother hive, and were all working from one port (both ports were in front, with division between on the flight-board), and on the sixth day it swarmed again, the swarm being joined by a cast from another hive. I again carefully hived them in the empty end of double hive, but with the same result. At the end of five days it swarmed a third time—an extra-sized one. Seeing I had made two unsuccessful attempts to form a "Wells" hive, I resolved to work the hive as one, and accordingly withdrew the dummy. Before putting back the swarm I removed the supers and took up every frame, carefully examining them for queen-cells. I found three empty ones and *nine* full ones. I removed them all, and, while doing so, five of the queens burst the caps and came out. They were strong and healthy, but made no attempt to fly. Two, however, met, and instantly attacked each other, and fought desperately until they were almost dead. Having made sure that all the queens and cells were removed, I put back the swarm, and had no more trouble: the hive afterwards did splendidly. Such was the result of my first attempt to work a "Wells." I am going to act upon your advice to J. E. Brown (888, p. 379) in the last issue, in order to gain my desire. I attribute my failure to transferring the swarm from the one end of the hive to the other, and regret I did not take a swarm from another hive.

The only annoyance we have had this season is the general one—namely, from wasps. They have killed outright some weak hives, and have been very troublesome to others. Natural swarming added very much to our labours in the beginning of July.—AMATEUR, *Kincardineshire.*

The cutting referred to by our correspondent reads as follows:—"Not for many years has there been such a favourable season for honey as the one now closing. The warm spring gave special facilities for breeding, with the result that the hives became strong and healthy. The fine summer has led to flower honey being pretty plentiful, while the return of heather honey is particularly heavy, the weather during the past month, when the hives were put to the heather, being exceptionably favourable for the bees. Generally, both kinds of honey are selling well. Bee-keeping is yearly gaining in favour among the agricultural communities of the West of Scotland. In Lanarkshire, it is true, there is no ideal honey-raising district, save in the high-lying regions in the upper reaches of the Clyde. On the other hand, Renfrewshire possesses in the Bridge of Weir and Kilmalcolm neighbourhood a splendid field for the apiarist, and some of the best clover honey is secured in this region. Again, in Ayrshire, the bee-keeper has a rich clover district, while across the water in Arran there is heather in profusion for the stronger-flavoured honey. The past season has been, on the whole, a favourable one, although scarcely so much so as might have been expected. In the Leadhills district the long drought to a great extent spoiled the heather, and while the honey has been above the average, it might with a less arid season have been still better. As to the quantity of honey secured, some Lanarkshire keepers report for one hive as much as sixty pounds. The harvest in Renfrewshire is the best for many years, and from Ayrshire there comes similar reports. Retailers, taking advantage of the rumours of an exceptional harvest, have been endeavouring to keep down the prices, but the bee-keepers rather than sell at the reduced rates prefer to store the honey, in the knowledge that they will easily command better prices later in the season. As a general rule bee-keepers refuse to sell to the middleman under 10*d.* per pound, and nearly half as much again can be obtained by selling direct to the consumers."

THE SEASON IN MID-KENT.

[1567.] What at the end of April appeared like being an extra good honey season has, through this district, turned out a very bad one: a record in this respect, I should think. And I really believe the bar-framist is worse off than the skeppist, as the latter did get a few swarms in April, which caused us to prepare hives and sections that the bees did not use when we gave them the opportunity to do so. But the weather did it. I have often said we can't get too much sun in May and June for bees. But old Sol was too hot for us this time, scorching almost everything up that would have produced honey. A lot of sections were put on the hives in April and early May, the bees taking to them at once; but it lasted a very short time, and then it was "Hope deferred," &c. Although the *Journal* reported honey coming in freely in West Kent, none came in here. I am rather anxious to see Mr. Wells' report from North Kent—I am afraid it won't be a very flattering one. My bees were

never in better condition in April than this year. What little honey we have got is dark in colour, although the flavour is not bad.

Wasps! Yes, we have had a few of them! Two bee-keepers living within sight of my house have taken about 400 nests this year between them, and I know of a grocer who has caught them by the bushel, and I am quite certain that your correspondent, "J. G. K." has had his share, for in walking up a hill a short distance from his place, I counted a dozen nests within as many yards. But they are getting thinner now, though it is still a job to keep them out of the honey, as well as the hives. I have heard of a few cases where they have turned the bees out of skeps; but we must give Mr. Wasp a little credit for good work, in helping to clear us of a few of the millions of aphides that have infested almost all kinds of the cabbage tribe. I noticed a wasp making a meal of those little pests only yesterday, and it has certainly been very amusing to see them catch and trim up the common house fly previous to carrying it home to the nest.

I can corroborate the observations quoted by "J. G. K." (1547, p. 364), as to honey-dew upon the oaks; you could see it everywhere, but I never at any time saw a bee at work upon it.

This has certainly been a most extraordinary season, what with the early drought and then the different insect pests; and now this last drought is, I believe, worse than the first, from the farmer's point of view, and if crops won't grow, there is nothing for the bees to collect from.

My average this year will be about seven pounds per hive, fully one half having produced nothing, so that when the sugar used for feeding is paid for, there is not much left for labour, &c. And now I suppose the best thing I can do is to pack them up for winter as soon as I can, and hope for a better season next year. It certainly is very annoying to read of such splendid takes in the north, when we in the south have a mere nothing.—MAN OF KENT.

[Our correspondent must be located in an exceptionally poor bee-district (for Kent), judging by his unfavourable report as given above. But why it should be "very annoying" to read of the good fortune of northern bee-men, it is not easy to see. Surely it should be gratifying, even to us unfortunate southerners, to learn that bees have done well *somewhere* in 1893.—EDS.]

MY FIRST YEAR'S BEE-EXPERIENCES.

(*Concluded from page* 367.)

[1568.] June 16th.—Made artificial swarm, which weighed three pounds; thought this too few bees, so put swarm on old stand for an hour, thus getting one pound more bees. On July 2nd they had taken eleven pounds of syrup. Twenty-one days later drove bees from old stock and put them in home-made frame hive, on five frames with starters and one of comb. Gave five pounds syrup. In eight days found queen laying; gave two more frames and five pounds more syrup.

Had news brought me on August Bank Holiday that a large ladder had fallen from roof of house and smashed the frame hive. Went home and found my wife had thrown a table-cloth over the whole *débris;* found roof smashed in and hive turned upside down: managed to place things straight in about an hour without a sting, and, as frames were wired, not a comb broken.

August 22nd.—Find nine frames full of comb and brood. Weight of swarm, twenty-four pounds; plenty of bees.

Taking a walk one day found some cottagers about to smother some stocks, two of which had swarmed early in year, so arranged to drive the bees on 12th inst. One lot in a cheese-box gave me over six pounds of bees; the other two driving well, the whole job only taking about two hours. Tied them down, slung them round my back, and carried them safely home; tired but well satisfied with my evening's work. Next morning placed the large lot on six frames, three of which were taken from the other stock being filled with sealed syrup, the others having full sheets of foundation. They have taken down ten pounds of syrup in five days. The other two lots, which weighed four pounds and three pounds respectively, I united in a skep on five pieces of brood comb which they gave me when taking the bees. I threw a portion of the bees on floor-board, sprinkled them with flour, placed skep raised at front on board, and then threw the other bees alternately on cloth in front, taking care to sprinkle each time with flour. They seem to be going on nicely, and taking syrup well. Both lots are carrying in pollen.

I have been striking a balance on Dr. and Cr. account of my year's bee-keeping, and find my outlay for two stocks of bees, driven bees, skeps, supers, general necessaries, together with sugar for feeding, &c., amounts to 4*l.* 9*s.* 9½*d.*, while my present stock, at fair value, together with proceeds of honey sold for 30*s.*, amounts to 6*l.* 16*s.* 6½*d.*, leaving me with a profit of 2*l.* 6*s.* 9½*d.*, which I consider very good for my first year's bee-keeping seeing I had everything to buy.—C. HARVEY, *Bromsgrove.*

SENDING HONEY BY POST.

[1569.] I am sending by this post two samples of honey, on which I should be glad to have your opinion. Sample No. 2 was gathered in August; is it from the blackberry? Why is sample No. 1 so dark? This has been a very good year here; I have taken 274 pounds extracted, and twenty-nine sections from four stocks, the best yielding 101 pounds extracted. Quality, mostly very good; some of the early takes were, however, rather spoiled by honey-dew.

With regard to the "Useful Hints" about

packing honey for post, I don't think that the postal authorities are altogether blameless in the matter, so far as my experience goes. I packed my *best* section, sealed all round, with glass each side, in a close-fitting postal section-case, carefully labelled as to its fragile nature, and dispatched the same to a show for competition; it was broken in transit, and unfit to stage. On another occasion I packed a bottle of honey in thick corrugated paper, and that also was broken in the post. I trust, however, that the bottles I am sending to-day will be mercifully dealt with.—PERCY SHARP, *Newark-on-Trent.*

[No. 2 is very good clover honey. No. 1 also good, but a little spoiled by honey-dew. Bottles arrived safe, but were not *very* well packed. Two coils of corrugated paper would have been better than one.—EDS.]

THE SEASON IN RIPON.

[1570.] Bees have done remarkably well in this district; the clover yield was not very large, but better than the four previous seasons. The yield from the moors is undoubtedly better than it has been for many years. Unfortunately, absence from home prevented my giving my hives any attention at the moors, consequently I could not give more room by way of adding sections. Two of the hives had double crates on, every section in which was perfectly finished, and every frame of comb sealed from top to bottom. As they could well spare it I took twenty-five pounds of honey from the combs and forty-two pounds in sections from each hive, which with forty sections from each previously made a total of 105 pounds surplus for each hive. The rest have done as well, only were short of space for storing surplus, merely completing the one crate of twenty-one sections and filling frames.—RIPON, *September 24th.*

MY PLAN OF PACKING HIVES FOR WINTER.

[1571.] After reducing the number of frames to seven, and placing dummy-board in position, my next care is to feed rapidly as necessity requires; this done, I pack for winter as follows, and have invariably met with success:—Fill space between dummy-board and wall of hive with pieces of paper pressed down tightly, with pieces of camphor mixed with them; two strips of wood, three-eighths of an inch thick, immediately over the frames, so as to leave bee-passages; upon these strips an enamel cloth quilt, then a square of ordinary tar roofing felt (this I find keeps the hive free from vermin, and aids to keep the bees healthy); now three thicknesses of drugget, and then any old books or newspapers which I may have handy. On October 1st I open entrance to its widest extent, and contract it March 1st, and reopen two months later in readiness for the honey-flow.—W. H., *Bromsgrove, September 7th.*

EXTRACTING WAX.

[1572.] I wish to thank the writer of the letter [1537, p. 347] for the interesting and lucid description of his method of extracting wax. I followed his advice to the letter and was more than pleased with the result, for I obtained quite three pounds of good, clear wax from pieces of broken comb, cappings, &c., which I should have thrown away in former years, not knowing how to utilise them, for I could not afford an expensive extractor. I feel sure that other bee-keepers besides myself will benefit by Mr. Percy Leigh's disinterested information.—W. H.

DE QUINCY ON BEES.

[1573.] The enclosed, taken from De Quincy's book, appears to me so against all common sense that I should be glad to have your opinion upon the matter, and the probable reason for the bees visiting the chimney; I should say they probably had a nest in or near it.—JOHN C. WALTHAM, *September 12th.*

De Quincy writes:—"The bee that extracts its materials indiscriminately from roses and from the soot of chimneys.—In the large capacious chimneys of the rustic cottages throughout the Lake district, you can see up the entire cavity from the seat which you occupy, as an honoured visitor, in the chimney corner. There I used often to hear bees. Their murmuring was audible, though their bodily forms were too small to be visible at that altitude. On inquiry, I found that soot (chiefly from wood and peats) was useful in some stage of their wax or honey manufacture."

[The above affords an excellent illustration of how very foolishly an otherwise clever man may talk when dealing with a subject of which he knows nothing. It need hardly be said that any one experienced in bee-keeping would regard the idea of bees visiting chimneys to gather soot as the veriest nonsense.—EDS.]

PACKAGES FOR SECTIONS.

A correspondent writes as follows:—"Could any reader of the *B. J.* inform me where the light cardboard boxes for one-pound sections are to be procured, or a suitable wrapper for sections when sold singly from a stall?—T. K."

BEE-CULTURE IN ALLOTMENT GARDENS.

In our allotment gardens, Mr. James Nixon has had a remarkably successful time with his bees; and it will be interesting to give the record of the work of one of his hives. The following are the results:—On June 12th, twenty-eight pounds were taken: June 22nd, forty-two pounds; July 10th, twenty-five pounds; and on August 22nd, thirty-one pounds; a total of 126 pounds. Mr. Nixon has taken more honey from one hive than has ever

been heard of in Cumberland. Besides the 126 pounds of honey taken, he has left in the hive nine good solid frames, equal to sixty-three pounds, to winter on. We should like to know if any bee-keeper has taken more from one hive this year, as 105 pounds is the highest record known by some of the most experienced bee-keepers. Other five bee-keepers in the allotments, with their two hives each, have taken from forty pounds to eighty pounds from each of their hives.—"*Haltwhistle and Alston News*," *September 16th.*

[The above cutting, sent by a correspondent, shows a condition of things very creditable indeed to Cumberland bee-keepers. The only uncertainty in the returns given, likely to strike a practical hand, is the weight of honey in the nine combs left (sixty-three pounds), that being a very high estimate for nine frames, unless larger than standard size.—EDS.]

Queries and Replies.

[892.] *Overdosing with Salicylic Acid.*—I have recently bought a stock of bees to start bee-keeping, and in making autumn food I have put half an ounce of salicylic acid, instead of half an ounce of salicylic acid solution to five pounds of sugar, and I have already given it to the bees, which have consumed about four parts of it. I did not know what a great mistake I had made till to-day, when a friend called and told me to write to you as quick as possible. Kindly give me your advice as to what I should do.—J. W. R.—*Burton Joyce, Notts.*

REPLY.—There is no help, of course, for what has been done, and the overdosing, though bad enough, is not quite so bad as it seems, because only a certain portion of acid can be contained in solution, and the rest would be wasted. Use no acid in the rest of the food.

[893.] *A Learner's Queries.*—1. I see from your paper that honey can be extracted from the combs without breaking or destroying them (by the extractor). Would you explain how it is done? In our place we still resort to the old method, crushing the comb, then straining the honey through a bag. 2. Ought sugar to be boiled for autumn feeding, because I have heard that boiled sugar is apt to candy in the hive. Is this the case? This has been a very good season here, both on the clover and at the heather. It is mostly straw skeps that are used. Some of them came home from the heather above 100 pounds in weight.—A LEARNER, *Stonehouse, N.B.*

REPLY.—1. The "honey extractor" is a cylinder of tin in which is a revolving cage, fixed on a shaft with a handle at top. The combs, after uncapping, are placed in this cage, and, by turning the handle, are subjected to rapid centrifugal motion as the cage revolves. The honey is thus ejected from the comb without injuring the latter. 2. Some bee-keepers merely mix the sugar with hot water, but we prefer it boiled.

[894.] I received two five-pound lots of driven bees (pure natives) from England on the 2nd and 12th of September, and put them respectively on six and five frames, each with fully drawn out combs. I fed up each lot rapidly with about eighteen to twenty pounds syrup, medicated with Naphthol Beta; but as the combs were entirely free from pollen, please say in your next issue if the bees can breed on the syrup food without pollen, or if I can assist them in any way with artificial pollen for the early breeding about January next. Pollen is coming in to the present, but in small quantities, and I think they will not get enough to store for the winter.—M. V., *Co. Tyrone, Ireland.*

REPLY.—The bees will no doubt gather some pollen before cold weather comes, and may be safely left till the early spring, when it will be advantageous to give them pea-flour in the usual way.

[895.] *A Beginner's Queries.*—I bought a swarm of bees last June, which I think have done very well from my having obtained twenty-one pounds of honey last month. I should be glad to have information on the enclosed points through the columns of your valuable paper. 1. How should I proceed to ensure keeping my bees safe during the winter? 2. What would be the best food to feed on regardless of cost? 3. I want as many stocks from one swarm as possible next year. How shall I do this without swarming? 4. I have made a "Wells" hive. How shall I make it ready for bees next year? 5. How must I proceed to become a member of the Bee-keepers' Association?—DURHAM.

REPLY.—1. Read up some reliable book on bees, such as the *Guide-book*, and prepare the bees according to the instructions contained therein. 2. Pure cane sugar made into syrup. 3. This information will be found in the book referred to. 4. It should require no making ready beyond fitting the frames with either strips of foundation as guides or with full sheets. 5. There is no County Association in Durham. Write Mr. Huckle, Sec. British Bee-keepers' Association, Kings Langley.

[896.] *Lifting a "Wells" Dummy.*—In case of a "Wells" dummy getting the holes propolised and requiring cleaning, how can it be removed for the purpose—as the moment it is withdrawn will not the bees begin to fight? Or possibly the queen might cross over to the other side.—P. SHARP.

REPLY.—In cases where the difficulty indicated occurs a dummy of perforated zinc (not queen-excluder zinc) should be inserted temporarily alongside the "Wells" dummy before the latter is withdrawn.

Echoes from the Hives.

Bromsgrove, September 6th.—I now write this, my first "echo," with feelings of joy, for I have just returned from examining my stocks,

and am glad to say the surplus stored is far greater than I expected. One hive I find will yield me over half a hundredweight of good ripe honey. This hive I made last March from the description which appears in *B. J.* for February 2nd (1318, p. 46). Late in April I transferred the bees and frames from an ordinary bar-frame into it, and left all severely alone until to-day, when I found as above mentioned. My other hives have done fairly well. I intend giving a dozen pounds of syrup to each of my stocks and then pack up for winter. Many thanks for the valued help I derive from the *B. B. J.* I often wish it was a semi-weekly paper.—WILFRED HARDIE.

A POSER.

A correspondent sends us a show schedule whereon is printed at the foot, "N.B.—Lectures on 'Mosquito Netting in Modern Bee-keeping' will be given during the show-day, August 3rd," and asks us to "explain what it means." We confess our inability to enlighten him in the slightest degree, though it is obvious some one has "gone wrong."—EDS.

Bee Shows to Come.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. W. C. Young, Secretary, Dairy Farmers' Association, 191 Fleet Street, London. Entries closed.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** A gentleman removing his bees in a few days from Romford, Essex, to Shelford, near Cambridge, will be glad to have the address of a bee-keeper in that neighbourhood willing to help him with his bees. Address, W. Loveday, office of *Bee Journal*.

E. H. (Lambeth Road).—*Selling Honey and Wax.*—Persons living in an out-of-the-way village in Suffolk may, of course, experience some difficulty in disposing of their bee-produce unless an "outside" effort is made to find a market. If the quality is good and the price moderate the honey and wax would probably find a purchaser if advertised in our "prepaid" column. Or could you not help your sister by making inquiries in London since you are located here?

INSURANCE.—*Roofing Felt for Frame Coverings.*—The roofing felt recommended for covering frame tops is that known as "Latus" felting. It is not fibrous, and consequently causes no annoyance to the bees such as you fear.

GARDENER.—1. Comb is badly affected with foul brood. 2. The "Garstang" honey press is especially constructed for extracting heather honey. 3. The "Raynor Extractor" is a strong one, but there are cheaper machines which will do the work well. 4. Mr. Wells is not a manufacturer of bee-appliances.

JOSEPH BELL.—Comb is foul-broody; not a very bad case, however, if comb sent is a fair sample.

CHARLES MARKS.—Comb sent contains "chilled" brood, not foul, but all combs containing such should be removed and burnt, using naphthaline as a preventive of disease.

SOND (York).—*Beet Sugar for Bee-food.*—Beet sugar is injurious to bees because of the chemicals used it its preparation and its tendency to fermentation. The chief objection to it is, as a winter food, because of this latter tendency.

NOVICE (N.B.).—*Fermentation of Honey.*—The "frothy appearance" may be nothing more than the small air-bubbles which rise to the top after extracting. If, however, the bubbles become larger and do not assume a white appearance, the inference is that the honey is fermenting. In the latter case the smell of fermentation is very apparent.

G. HEAD.—*Honey Samples.*—Nos. 1 and 2 are fair samples of honey from mixed sources; 3 and 4 very fair in quality, chiefly from clover; 5 is not so good.

W. KINGHAM.—Comb is foul-broody and should be at once burnt with the few bees left in the hive. On no account use the combs for driven bees.

A. P. JOLLYE.—*"Wells" Dummy.*—Referring to dummy now received, there must, we think, be some error in your statement that the hive from which the dummy from surplus chamber is taken was "made according to Mr. Wells direction." That gentleman does not use a dummy in his surplus chambers at all. On his system the bees are not parted in surplus chambers by a fixed dummy, but work in a super common to both lots. Besides, the dummy sent is quite different in many respects from the genuine "Wells" dummy, as we have seen it.

J. F. CRIBB.—Thanks for photograph; hope to print your interesting reference to it next week.

A. G. S. (Lincoln).—*Foul Brood.*—Will our correspondent who wrote under the above initials kindly again furnish us with his name and address.

ERNEST WALKER.—The colour of wax may be improved by passing it through boiling water several times, and scraping off the impurities which gather on the underside of it when cold. It will do as it is for use in making brood foundation.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

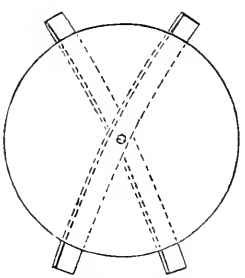
WEATHER.—A little over a week ago we had no "hints" to write, or probably those who care to peruse this column would have been told that snow was lying two feet deep in some parts of Scotland, and that winter was travelling south very fast. As it is, we find ourselves in these parts still in the midst of phenomenal warmth and sunshine.

THE HARVEST.—The honey season being now quite over, bee-keepers are totting up results. And what harvests of honey some of our northern friends have secured to be sure! We have been looking over the "reports" in our monthly, and it is quite refreshing to learn how well bees have done in Scotland and some parts of the North of England. Among many big "takes" recorded, we think that of Mr. A. Muir, as reported on p. 136 of *Record* now bids fair to stand at the top. Here it is:—

"I had nineteen hives, spring count, and finished the season with twenty. Had only four hives that swarmed. I wrought twelve hives for extracted honey, six for one-pound sections, and one for seven-pound supers. I find, on counting up, I have got nineteen hundredweight of honey, besides twenty frames of honey given to driven bees. My two best extracting hives gave me 150 pounds each! the best 'take' being from 13th to 19th June—six days—when the bees drew out five shallow frames and gave me thirty-nine and a half pounds from each. My best hive, worked for sections, gave me five crates of twenty-one pounds each, or 105 sections in all. The hive with supers gave me 100 pounds in supers, and twenty-three pounds of heather honey from shallow frames."

THE "WELLS" SYSTEM.—No doubt the comparative fewness of the reports to hand concerning the success or failure of this system in the hands of readers is largely due to the bad time for bees in the south. One report, however, forwarded by a well-known bee-keeper, is very favourable. It reads thus:—"Mr. R. Clinton Baker, of Rayfordbury, near Hertford, started a 'Wells' hive in May, and has taken from it a total of 262 pounds of honey. This will be about as good a record as the 'Wells' hive has made in this county!"

WINTERING BEES.—The usual queries on preparing bees for wintering well are now cropping up, and may be dealt with *en bloc*. The main points are, plenty of wholesome food, plenty of bees, and protection from weather combined with ventilation. If food is plentiful in the hive, a simple contrivance, easily made — such as the well-known "Hill Device"—laid over the frames, will enable the bees to reach their stores without the need of cutting "winter passages" through the combs. If food is short when packing for winter, the scarcity must be supplemented by candy; and for this purpose, as well as giving winter passages over frames, the "St. Beuno's" candy feeder may be used.

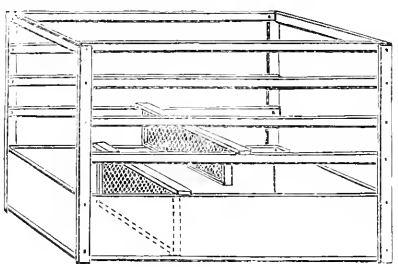


St. Beuno's Device.

The "St. Beuno's Device"—so named by its first maker—consists of two curved pieces of wood, crossed and united by an inch or inch-and-a-half screw, the thread of which protudes into the curvature. Laying this on its back, legs upwards, in a soup-plate, with a sheet of paper underneath, the melted sugar is poured in, until about one inch of each leg is left exposed. The device need not touch the bottom of

the plate; if it dips under the surface a half-inch it will do, and for this purpose a piece of cardboard laid across the four legs will sufficiently overcome the buoyancy of the wood until the candy sets. Thus, when the candy is placed over the frames, the four legs protruding slantingly an inch long, give bee-space at once under its whole area.

PRESERVING STORE COMBS.—For packing away store combs a simple rack may be made from the accompanying sketch.



Rack for storing Combs.

The "body-box" (Fig. 2) is 9 inches deep, 14½ inches from front to back, and 32 inches long, inside measure. So that, if needed, standard-size combs may be stored therein. The uprights at each corner are 33 inches long, 2 inches wide and ½-inch thick, nailed on to the outside of body-box. Four light rails, front and back, form the runners on which the frames hang; they are nailed on the inside of uprights with their top edges 6 inches apart, the top rails only being continuous. This rack when complete is very light, and will comfortably hold 100 frames.

A light cover made with slater's laths and covered with cheap calico, over which is pasted an outer casing of strong brown paper, goes over all and keeps out dust and vermin.

HONEY SHOW AT KILMARNOCK.

We are requested to notify that the Thirty-first Annual Show of the Ayrshire Agricultural Association takes place at Kilmarnock on the 20th inst., and that the sum of 47*l.* is offered as prizes for competition. There are eight classes in the "Special Competition" for honey, including a class for two one-pound jars of extracted honey, and one for two one-pound sections of comb honey. In these latter classes the entry fee (1*s.*) is returned to the owners of all exhibits actually staged. Substantial prizes, including gold and silver medals. For particulars apply to Jas. McMurtrie, Secretary, 70 Newmarket Street, Ayr. Entries close October 6th.

ROXBURGHSHIRE BEE-KEEPERS' ASSOCIATION.

The second annual exhibition of honey and bee-appliances under the auspices of this Association was held at the Corn Exchange, Jedburgh, on September 23rd. Bee-keepers have had a prolific season, and honey of good quality has been secured in large quantity. This good fortune, coming after a series of years of moderate results, no doubt largely contributed to the success of the exhibition, the entries numbering over two hundred. The honey, wax, and appliances were displayed on the platform, and on five lines of tables stretching almost the length of the hall. The tables, which were embellished with flowers, were fully occupied, and visitors were much impressed by the quantity of bee-produce exhibited. Heather honey there was in quantity, and of excellent quality; clover honey, too, being well represented in both the above respects. Four collections of honey were staged, all of which so merited recognition that the judges gave a high commend to both the unplaced ones. As a whole, the show has had probably only one equal in the South of Scotland, and it is very creditable to the office-bearers and members of the Association that, after such a brief existence in organized state, they have reached this foremost position. The judges were: Mr. Christopher Chouler, Dalkeith Park, Dalkeith; and Mr. John Wishart, Castlecraig, Peeblesshire. Their awards were as follows:—

Collection of honey, not exceeding one hundred pounds.—1st prize, J. Whillans, Camptown; 2nd, G. Ormiston, Knowesouth; v.h.c., Dr. Blair, Abbey Green, and Dr. Fyfe, Nest School.

Observatory hive.—1st, G. Cumming, Langholm; 2nd, Dr. Fyfe.

Collection of appliances (limited to twelve articles).—1st, Dr. Fyfe; 2nd, Dr. Blair.

Twelve 1-lb. sections.—1st, H. Wood, Lichfield; 2nd, J. Kerr, Birkenside; 3rd, G. Wilson, Kelso; h.c., T. Clark, Pleasants Schoolhouse.

Best hive made by exhibitor.—1st and 2nd, G. Cumming.

Six 1-lb. sections clover, and six 1-lb. sections heather honey (open to the county).—1st, J. S. Dudgeon, Longnewton; 2nd, W. Oliver, Bongate; v.h.c., J. Kerr and T. Clark.

Non-sectional super.—1st, A. Telfer, Castlegate; 2nd, T. Ellis, Castlegate; v.h.c., P. Robertson, Hartrigge.

Non-sectional super of heather honey.—1st, J. Whillans; 2nd, P. Robertson; v.h.c., A. Telfer and T. Clark.

Non-sectional super, any weight.—1st, P. Robinson; 2nd, T. Clark.

Non-sectional super of heather honey, any weight.—1st, P. Robertson; 2nd, T. Clark; v.h.c., J. Whillans.

Twelve 1-lb. heather sections.—1st, A. Anderson, Minto; 2nd, M. Bell, Lanton; h.c., J. S. Dudgeon and W. Oliver.

Six 1-lb. clover sections.—1st, Dr. Blair; 2nd, R. Sinton, Bonjedward; v.h.c., W. Oliver and J. S. Dudgeon.

For the best six 1-lb. heather sections.—1st, R. Sinton; 2nd, A. Anderson; v.h.c., W. Oliver.

Six pounds extracted honey.—1st, T. Clark; 2nd, Dr. Blair; h.c., R. Sinton.

Glass super of any kind.—1st, W. Oliver; 2nd, W. Fairbairn, Bonjedward.

Beeswax.—1st and 2nd, G. Ormiston, Knowesouth; h.c., Mrs. J. Smeall, Castlewood.

Bar-frame of honey.—1st, G. Ormiston; 2nd, R. Millar, Castlegate.

Super of heather honey, not over twelve pounds.—1st, T. Clarke; 2nd, T. Ellis.

Four 1-lb. sections.—1st, A. Anderson; 2nd, G. Ormiston.

Six 2-lb. sections.—1st, withheld; 2nd, R. Millar.

Six 1-lb. jars extracted honey.—1st, J. Veitch, Inchbonny; 2nd, Dr. Blair.

Best wasp-byke.—1st, J. Whillans; 2nd, W. Sinton.

Invention or improvement of appliance in bee-keeping.—1st, Dr. Blair.

Six pounds of honey.—1st, W. Davidson, Cleikimin; 2nd, T. Clark.

Certificate of merit awarded to Dr. Blair for his sting-preventer, for use on the hands.

MELROSE BEE-KEEPERS' ASSOCIATION.

The Melrose Bee-keepers' Association held their show of honey in the Ormiston Hall on the 23rd September. The exhibits in every class were of considerable merit, while those of flower honey in sections and supers were exceptionally good; supers of heather honey numerous, and the quality and finish all that could be desired; heather honey in sections fair, but lacking in finish. Some very interesting and instructive exhibits, kindly sent by Sir T. D. Gibson-Carmichael, were much appreciated, showing how the general public can be made to sympathise with a subject when properly brought under their notice. Bee-keepers are certainly much indebted to Sir T. D. Gibson-Carmichael for the interest he takes, and the time and money he bestows, in his praiseworthy endeavours to spread among the people a knowledge of bee-keeping; and Lady Carmichael, for her kindness in adding to the prize list her silver medals.

Mr. R. Greig, Auchincrow, Berwickshire, officiated as judge.

Prize List.

Flower Honey.

Super under 25 lbs.—1st, R. Moffat; 2nd, R. Ballantyne.

Twelve 1-lb. sections.—1st (Lady Carmichael's silver medal), Sergeant M. Hill; 2nd, R. Moffat; 3rd, N. Dodds.

Six 1-lb. sections.—1st, R. Moffat; 2nd, N. Dodds; 3rd, Sergt. M. Hill.

Three 1-lb. sections.—1st, R. Moffat; 2nd, N. Dodds; 3rd, Sergt. M. Hill.

Four 1-lb. jars extracted honey.—1st, Sergt. M. Hill.

Two 1-lb. jars extracted honey.—1st, Sergt. M. Hill; 2nd, R. Moffat.

Best super, flower or heather.—1st (Lady Carmichael's silver medal), G. Scott; 2nd, W. Holmes; 3rd, N. Dodds.

Heather Honey.

Twelve 1-lb. sections.—1st (Lady Carmichael's silver medal), Mr. Chisholm; 2nd, Mr. Watt; 3rd, Mr. Scott.

Six 1-lb. sections.—1st, W. Holmes; 2nd, N. Dodds; 3rd, Mr. Hunter.

Three 1-lb. sections.—1st, W. Holmes; 2nd, N. Dodds; 3rd, J. Watt.

Three 1-lb. jars extracted honey.—1st, Sergt. M. Hill; 2nd, R. Moffat.

Beeswax.—1st, R. Moffat.

HONEY SHOW AT LLANDILO, CARMARTHENSHIRE.

A show of honey was held in connexion with the annual exhibition of the local Agricultural and Horticultural Society, on September 21st, at Llandilo, the live stock being exhibited in a field in rear of the "Castle Hotel," while the horticultural and honey department was tastefully arranged in the Market Hall.

The competition was very keen for the honey prizes which Mr. A. Hamer, Llanarthney, as judge, awarded as follows:—

Comb honey in sections, 6 to 12 lbs.—1st, D. Griffiths; 2nd, D. Davies; h.c., W. R. Lewis; com., Mrs. Williams.

Extracted honey, 6 to 12 lbs.—1st, D. Davies; 2nd, W. Simon; 3rd, L. Johns; v.h.c., Dan Davies; h.c., Mrs. Williams; com., W. Lewis and J. Perkins.—*Communicated.*

HONEY SHOW AT THE CRYSTAL PALACE.

The sixth annual Co-operative Flower Show was held at the Crystal Palace on August 18th and 19th last, the publication of our report having been delayed till now, pending decision as to an alleged informal entry in one class. The matter has, however, now been settled.

Again favoured with fine weather the festival was well attended by co-operators from all parts of the country, and as usual one section of the show was devoted to bee-produce, a very creditable display being made in the honey department.

The judges, Messrs. Jesse Garratt and W. Broughton Carr, made the following awards:—

Best exhibit of comb honey in sections.—1st, A. D. Woodley, Reading; 2nd, W. Debnam, Chelmsford; 3rd, A. Hamer, Llanidloes.

Best exhibit of honey in sections, and in 1-lb or 2-lb. jars.—1st, A. Hamer; 2nd, H. W Seymour, Henley-on-Thames; 3rd, E. E

Smith, Gravesend; com., T. Badcock, W. Debnam, and A. Jones.

Twelve 1-lb. sections.—1st, A. D. Woodley; 2nd, A. Simpson, Lichfield; 3rd, J. Adams, West Haddon; W. Debnam; h.c., E. J. Ridge and F. Tunbridge; com., T. Gulliver, A. Hamer, and H. W. Seymour.

Twelve 1-lb. jars extracted honey.—1st, H. W. Seymour; 2nd, A. Hamer; 3rd, A. D. Woodley; 4th, A. Jones; h.c., W. Debnam, J. Adams, T. Gulliver, and E. J. Ridge; com., T. Badcock.

Twelve 1-lb. jars granulated honey.—1st, W. Debnam; 2nd, T. Gulliver; 3rd, E. J. Ridge; 4th, J. Adams.

Beeswax.—1st, W. Debnam; 2nd, H. W. Seymour; 3rd, J. Adams; h.c., A. Jones.

Collection of honey-producing flowers.—1st, Not awarded; 2nd, A. Hamer; 3rd, H. O. Huntley.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AUSTRALIAN HONEY AND CUSTOM-HOUSE OFFICIALS.

[1574.] Will you allow me, as a brother bee-keeper, to complain against an act of injustice and stupidity of the Custom House officers in London?

For two years past I have shipped all our honey to England—and it has given very great satisfaction in spite of the prejudice that exists in England against Australian honey; for proof of this see an article on "Pure Honey," by R. A. H. Grimshaw,* an old contributor, I believe, to your Journal (in *Leeds Mercury* supplement, October 15th, 1892).

I simply mention this about the quality to show you that it cannot have been seized on that account—although that is the impression that the conduct of the Custom House officers has caused by their refusal to give any definite information.

Our honey is put up in sixty-pound and twenty-eight-pound tins; these are packed in *old* kerosene cases *re-made;* on each case is a label nine inches by five-and-half inches, stating contents of case as Eucalyptus Honey; on each tin is a label thirteen inches by nine to the same effect. The first reason for seizure as far as I can make out was, that on *one* of the cases the word "Petroleum" could be still deciphered (although it must have been nearly illegible, as I never observed it).

Then it appears the Bill of Lading only stated the number of cases and did not say what they contained; so the Customs' officers pretend, I presume, to think that "Petroleum" was in the cases, notwithstanding the large printed labels stating contents of each case. Our agent, of course, endeavoured to get the honey, which, after several weeks' detention (eight, I believe) was at length given up, but our agent still writes "that he can get no further information from the Custom House officers respecting the seizure, except that it did not comply with the Merchandise Marks Act." I should like to know if these almighty Jacks-in-office have a right to act in this high-handed fashion, and have I no redress? I am a law-abiding citizen, and I want fair play and no favour.

I should like to know the head boss at the Customs, that I might write him on the subject. I presume that these petty officials want to show their power, and as I am fourteen thousand miles away they think they can act like tyrants, as despotically as they choose with perfect impunity; but the Press has stirred such-like up many a time, and this is why I write to you on the subject. One of the tins also had about twenty pounds of honey taken out of it in transit—of course, we cannot say where this occurred—but if it was in that state when Customs received it, they ought, I think, to have said something about it.

Altogether, I think I have a right to grumble, and trust you may see your way to give these Custom House officers a poke with your editorial pen—as the French say, "pour encourager les autres."—JOHN SMITH.

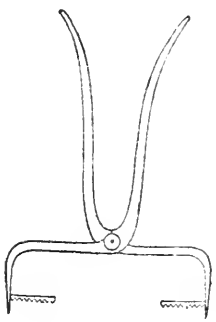
[We are afraid we cannot assist our correspondent with the Custom House officials, as it appears they were quite in the right with respect to seizing the goods. Our Colonial and Continental friends should make themselves thoroughly acquainted with the Customs regulations before they send goods here, or they should get their agents to give them full instructions. It is quite clear, if the goods did not comply with the "Merchandise Marks Act," they were justly seized. This Act provides that no goods shall be imported into this country unless they are stamped in a conspicuous manner with the name of the country in which they are produced. If our correspondent wishes to use petroleum cases he must also make sure that the marks are properly planed out. He must also bear in mind that every package or tin must have the name of the country in which it is produced stamped upon it.—EDS.]

* See *British Bee Journal*, Jan. 14th, 1886, article by R. A. H. Grimshaw on the use of "Bee-sting."

A NEW SECTION-LIFTER.

[1575.] I have always found a great difficulty in removing sections from racks or crates, more particularly when at the heather. The thick gloves worn at the operation interfere with the manipulation, and the honey is apt to be thumbed.

I have made inquiry if any instrument existed which would lift honey without the hands coming in contact, and I have not discovered any. I therefore enclose sketch of a *lifter*, which entirely does away with such contact, and which works twice as quick as any method I know.



Section Lifter.

The pins in centre of the mouth, pointing inwards about three-eighths of an inch from the faces, are for two purposes. First, for the prevention of the face inserted going too far down, which would interfere with the insertion of the other. Second, being "toothed" on the side towards the section, the latter may be moved by pressure to the extent of allowing the other face easy entrance. When both sides are in position, the instrument is used in the same manner as nippers, and the pressure, being on the end of the section, may be of a very considerable force, which allows of the easy removal of the sections. The stray bees may be moved, and the section packed, without being touched by the hands at any time, as has been done by myself.

I have never seen it fail to draw a section, and I have taken off a considerable quantity of honey.

If nothing of the same kind has been seen before, you would oblige me by inserting a paragraph on the enclosed, giving other bee-men the benefit of it. Any blacksmith could make one from the sketch; the one who made mine could furnish them at 2*s.*, carriage paid.—A. Graham, *Dalkeith, N.B.*

THE HONEY CROP IN SOUTH-WEST SUSSEX.

[1576.] This has been the best season that frame-hive keepers have known in this district. I had in May five hives, and their produce has been as follows:—

	lb.	oz.
I. (extracted only).....	144	13
II. (sections only)	48	7
III. (sections and extracted)	79	10
IV. (chiefly sections)	52	12
V. (extracted only)	125	4
	450	14

Making an average per hive of 90 lb. 2 oz., the highest I have had yet, and bringing my yearly average per hive, for the nine years during which I have kept bees, to 42 lb. 9 oz. I think that the most remarkable point about the crop was the large amount gathered in May and August. My bees could not take full advantage of the earliest honey, for my object always is to have them ready for the clover in June, and not before, and consequently, the clover being a month early this year, the hives were only half-full of bees. A friend of mine, five miles off, was ready for the first clover, and his average per hive is 111 lb.

I always use queen-excluders for extracted, and never for sections, and have never yet found the queen go into the sections. I had no swarms this year, and in fact there were very few in the neighbourhood. The bees have been remarkably gentle, and there has been practically no robbing; indeed, I have never known a year in which the bees have given less trouble. During the end of June and beginning of July, the honey was just stained with honey-dew, otherwise the colour has been excellent, varying from white in May, to pure golden in August; and the flavour has been superb.

I confess to being behind the times in having no "Wells" hives, and, like no doubt many other of your readers, am looking forward with interest to the report of his take this season—nothing less than an average of 200 lb. per hive will induce me to follow his system: and surely, in such a year as this has been, it is not too much to expect. The sunshine up to date is 360 hours above the average for this district.—L. B. Birkett, *Westbourne Rectory, Sussex.*

ANOTHER NOVICE'S FIRST YEAR'S BEE-EXPERIENCE.

[1577.] If you have room for another beginner's first year's bee-experience, perhaps you will insert mine as under:—In the autumn of 1892 I bought five hives (beeless of course), and some empty frames of comb, filling up with full sheets of foundation wired in. I then drove seventeen lots of condemned bees—though I had never seen it done before—and put them into the hives, some of them by throwing the bees out in front, others at the top, but dusting all their jackets well with flour, which they made good use of as pollen. Had no fighting; fed up with syrup medicated with salicylic acid, then with candy cakes in section boxes laid on strips of wood across the frames. Packed them well up with quilts and paper coverings, and covered back and front with thatched "sheep gates." The bees all wintered well, and in the spring of this year I bought two more stocks, and got ready for business. Three hives were worked for sections, which proved worse than "Man of Kent's" (1567, p. 386); but having read something in my friend the *B. J.re* White Foundation in sections, I send a piece for your inspection, as I put down the failure to the use of such stuff, as it is the most likely cause of no harvest from sections. The other four hives, worked for ex-

tracted honey, gave 414 pounds of honey, and *we* (that is myself and another) have sold enough to repay us all cost, including extractor, knives, feeders, bottles, &c., and have still over 150 pounds for sale. Concerning those bottles, the one-pound tie-overs hold one pound one ounce, and two-pound bottles hold two pounds five ounces of honey, so if I had got bottles holding only sixteen ounces it would have made a good difference to my "take;" but being only a "one-year-old baby" at the craft I must not complain, although I, too, am a "Kentish Man." Had no swarms; have driven thirteen lots of bees this year, all heavy; then I have two more hives here where I live, one worked for sections, with nearly the same results as the first three mentioned, having only taken twenty-five pounds from it. I made an artificial swarm from this one, but was in too big a hurry, only waiting one week before examining, and of course finding no eggs or brood, united them again, but thanks to *B. J.* shall not be so foolish again.—JOHN DEAN, *Strood, Kent.*

A NOVEL BEE-EXPERIENCE.

A COAT BURIED IN HONEY.

[1578.] If you can find space for the relation of my trials and troubles in a recent experience with our little friends the bees, it may be useful to some members of our craft in similar circumstances. On September 13th, the Rev. Mr. Evans, of Marshfield, asked me to look over his bees, one a frame hive, containing thirteen frames, the other a large box. Three years back, the reverend gentleman put a crate of sections on the frame hive, and, being well advanced in years (over seventy) he mismanaged matters in some way, so that the bees got the better of him, and he had to run away after putting the cover on as best he could! He seems to have entirely forgotten that, in his difficulty, he had thrown his coat on top of the section crate to keep the bees down, and put on the hive roof over all! For three years then the hive was left undisturbed, till the other day when I was asked to overhaul it. On making a start a friend and myself had to get an iron bar to lever the roof off, and we also got plenty of stings in the operation. However, when we got "inside" the sight was something for a bee-keeper to remember, for the bees had filled the sections, all ways but the right one, and on top was the reverend gentleman's long-lost coat completely buried in honey! To make matters worse, when the bees were first put in, the dummy-board had been put right in the centre of where the brood nest should be, and a diaphragm or frame fitted with excluder zinc was put next to this. The bees had got over and filled all the frames behind. They had also built two large combs right up to roof in rear of the frames. I leave your readers to picture the job we had cutting out combs, sections, and the coat! Eventually, however, by the exercise of patience and care, I removed over a hundred-weight of honey, leaving more than forty pounds for the bees to winter on. I was not only heartily thanked but remunerated by the owner, so all concerned were satisfied. On Wednesday, September 20th, I was at Moulton, and found a gentleman there who had a large vagrant swarm from the woods which had entered one of his hives, this hive being already occupied by a strong stock. The swarm came on August 25th, and up to Monday last fighting had been going on between the intruders and the rightful occupants. I advised him to let me give them room, but he said, "I could have both stock and swarm if I would only take them away, they were *so* unmanageable." So I am going to fetch them and expect to have a warm time of it, as they are clustered all over the stock hive and the bees start making holes in one the moment you enter the garden. A word in conclusion on my own result for the year from my two hives. I have taken fifty-nine sections and ten pounds of extracted honey from one and from the other forty-nine pounds of extracted honey, leaving them plenty to winter on, and have made up one stock from driven bees for myself and four lots for others, so I have not done badly. I have never heard of a swarm in August before, but this year have had to do with two such swarms; one coming from a May swarm of 1893.—THOS. ADAMS, *Ely, near Cardiff, September 23rd.*

SOME MORE NOTES OF THE SEASON.

[1579.] Although the summer has been so sunny and dry, my yield of honey is only eighteen pounds per hive on eighty-eight hives, or a total of about 1600 pounds of run honey. And yet my stocks were stronger in April than they usually are at the end of May!

I have come to the conclusion that bees gather very little surplus honey over a mile from home. The white clover round here never bloomed so luxuriantly as it generally does, and such flower-heads as did appear were quickly eaten off by the starving sheep. A hive which I look after for a friend, one and a quarter miles from here, has yielded seventy one-pound sections; but there is a fifteen-acre clover field close to the hive. Another, who lives in the Vale less than two miles away, from four hives which I manage for him got 250 one-pound sections, or an average of 62½ pounds per hive. I attribute this, however, to the many meadows near him.

When I compare my small yield with theirs, my friends tell me I look after their bees much better than I do after my own! But I think the above facts prove that much surplus honey cannot be secured over a mile from one's apiary. Nine of my hives yielded nothing at all, though they had exactly the same treatment as the rest. Skeppists around here have fared badly, having had scarcely any swarms.

It makes one's mouth water to read, on page 386 of last *Bee Journal*, of North-country

bee-keepers who have had such a good season, accepting nothing less than 10*d.* per pound for their run honey, while I am trying to get 7*d.* per pound for my poor yield.

I am wintering two hives with three colonies in each, and two hives with two colonies in each. Perforated dividers between.—APIARIST, *Fairspeir, Ascott, Oxford.*

HOW DOCTORS DIFFER ABOUT QUEENS.

[1580.] "I put two old queens together in same box by themselves, but they did not fight, as they are supposed to do. I am of opinion the workers have a great deal to do with the royal duel."

The above is from a "first-class" Kent expert as to queens dwelling in *amity*. Let us call him Expert No. 1.

I related this interesting experience to another "first-class" expert—a Kent man. Call him Expert No. 2. He professed extreme surprise, complete scepticism—"never, in all his life, saw anything but *enmity* between queens!"

Another Kent man—also a "first-class" expert—was manipulating bees at a recent show, and, finding the queen, he placed her between his lips, as is usual. He is astonished, *painfully* astonished, by a sting on the lower lip; he had never been so treated by royalty before!

I relate this circumstance also to Expert No. 2. He is incredulous, and assures me that he never saw or heard of such a thing. "Could it have been some worker?" he says. Queens had often bitten his lip or tongue, and held on tenaciously by the "stem," but never by the "stern." How *our* doctors differ!—E. D. T., *Eynsford.*

[We think there is no need to question the accuracy of either of the above statements. Two laying queens *have* been known to dwell together in apparent amity in one hive; not frequently does this happen, it is true, but often enough to render the fact indisputable. That queens do sometimes inflict a sting on human beings when being held between the lips—as in the case referred to—is also quite true, and has been so recorded. In fact, the senior Editor of this journal, in his work on *The Honey-bee* (page 81), cites an instance of it having happened to himself. Such instances are, however, very rare; but they justify us in so frequently reminding our readers of the well-known axiom, "Bees do nothing invariably."—EDS.]

MY EXPERIENCE OF THE "WELLS" SYSTEM.

[1581.] I have had a little touch at the popular "Wells" system of bee-keeping. I could not start in the autumn, so I fitted one of my twin hives holding twenty-four frames in the "Wells" style—that is, I made it as near like the book instructions of a "Wells" as I could. My dummy, however, I fixed, as I thought I saw danger ahead in the event of the dummy warping and leaving a (queen) bee-space on one side or the bottom. Whether the dummy is perforated now or solid I cannot say, as I have not been in there since I fixed it; but as early in the spring as I could I put a good stock of bees in each department, and both had young queens, and I consider that hive as it then stood was on a fairly equal footing with the majority of the other single stocks, and it worked away all right, but as to results, I cannot see any difference in this and the other hives. I have had three or four twin hives for some years, and I notice these generally winter well, and give good results in honey—better, I think, on the whole than single hives—but their drawback is they are too bulky to shift about, and not quite so manageable at swarming-time. "Wells" hives, of course, have these drawbacks. One of my ordinary twin hives I supered with a large super open to both stocks, and the bees worked together in it splendidly, although completely divided until the super was put on. I do not consider mine is a fair trial with the "Wells," but I give the facts for what they are worth, as it is only by reports from bee-keepers in general who have tried the system that we can get at the value of it.—HY. NEVE, *Sussex.*

AN ACTIVE OCTOGENARIAN BEE-KEEPER.

[1582.] I herewith enclose you photograph, showing the result of a severe attack of "bee-fever" sustained by the gentleman shown, who is eighty-four this year. The house in photograph is built to contain eight "Wells" hives, is double-walled and roofed, swing window in the roof at the back, with shutter inside, and stands on a block of asphalte 10 feet by 8 feet. I would call your attention to the nucleus hives, as seen, which slide on runners outside, close to hive entrance. He has made and built this house during the present year, and has now two "Wells" hives in it. The other hives shown are all of his own make, and are constructed on his own system, with the entrances at the top; although not approving of this arrangement for manipulating, I am bound to say that, so far, the bees have wintered well in them.

Surely such an example of energy and care for the welfare of his bees, from one who took up bee-keeping at the early age of eighty-one—joining both the B.B.K.A., and our Lincolnshire Association—ought to make some of the younger members of the craft blush and be a bit more energetic.—F. J. CRIBB, *Gainsborough.*

PACKAGES FOR SECTIONS.

[1583.] Will you allow me to say in reply to the correspondent who, on page 388, has asked where cardboard boxes for one-pound sections can be had, I can supply such in the flat ready for folding round sections, with handle to carry by, for 1*s.* 6*d.* per dozen.—A. W. HARRISON, *Potter's Bar.*

HONEY-DEW AND GREEN-FLY.

[1584.] I quite agree with what appears on p. 364 (1547), and fully believe that all honey-dew is not the excreta of the green-fly, as I found from careful obsevation, when the limes were in bloom this year, that the leaves were dripping with honey-dew, while not a green-fly was to be seen. The bees, too, in the early morning, were "roaring busy" on the tree-leaves.—F. G., *Methwold, Norfolk.*

WEATHER REPORT.

WESTBOURNE, SUSSEX.

September, 1893.

Rainfall, 2·04 in.	Sunshine, 169·65 hrs.
Heaviest fall, ·50 in. on 29th.	Brightest day, 12th, 11·35 hrs.
Rain fell on 16 days.	Sunless days, 3.
Above average, ·08 in.	Below aver., 1·45 hrs.
Max. temp., 72° on 5th.	Mean max., 62·5°.
	Mean min., 46·4°.
Min. temp., 31° on 24th.	Mean temp., 54·5°.
Min. on grass, 25° on 24th.	Max. barometer, 30·79 on 14th.
Frosty night, 1.	Min. barometer, 29·30 on 30th.

L. B. BIRKETT.

Queries and Replies.

[897.] *Preparing Driven Bees for Wintering.*—Will you kindly advise me how further to proceed with my bees under the following circumstances? I need hardly say that I am a very small beginner, and a novice in the bargain. I made a frame hive, but it is not quite standard size owing to a mistake in measuring length of frames. However, I got two lots of driven bees and brought them home. I put one lot (a weak one) in at top of frames, the other I drove in through entrance. I only painted the hive two days before, but it was quite dry when I put bees. I then put five pounds of syrup in a feeding-box, and covered up the frames, box and all. Of course, I cut a hole in the covering to allow it to go down on frames. Did I proceed right? 2. As the two lots together are but weak, had I better buy some more bees to put to those I now have? I did not see any queen nor have I got any comb in frames, but I fastened a narrow strip of foundation in top of each five frames. I am told that it is too late to put in sheet foundation now. Is this so? 3. Had I better get some comb with brood and tie it in frames? I propose giving them twenty pounds of best Demerara sugar to feed them upon. Is this enough?—NOVICE, *Cardiff.*

REPLY. — It is certainly a somewhat inauspicious beginning for "a novice" to commence bee-keeping under the circumstances detailed above. To begin with the hive: the advantage to an amateur hive-maker of a correctly made pattern to work from is simply enormous, and the failure to make the first hive "not quite standard size" is a serious bar to its future usefulness. Then, with regard to the bees: they may be wintered safely, but you start with every disadvantage in having only driven bees and no combs in the hive at end of September. We say this, not to discourage our correspondent, but only because it would have been so much better to lay out the cash spent on driven bees, comb foundation, and sugar for feeding, in the purchase of a healthy stock of bees on combs, well supplied with food and ready for hanging in the new hive with but little disturbance. However, we reply to queries enumerated as under:—1. The procedure was not quite such as an experienced hand would adopt, but, so long as the bees were got into the hive, you cannot have gone far wrong. 2. If the two lots of bees "are but weak" it is almost hopeless to attempt to winter them, or to expect them to build out sheets of foundation into comb at this season. If another lot of bees and a few combs could be got it would render the chances of success much more hopeful. 3. "Combs with brood" would be very useful, but how could you get them?—and if got, how could a novice be expected to get the brood safely among the bees without "chilling" it? Some clean, healthy, empty worker comb will, however, be very helpful. In making syrup for feeding use refined cane sugar; twenty pounds will be sufficient.

[898.] *Width of Lace Paper on Sections.*—1. Will you please say whether the rule concerning three-eighth-inch lace-paper glazing for sections is in force for the Dairy Show, as nothing is stated in the schedule to that effect; and if so, is the paper to overlap the face of *glass* only three-eighths of an inch, or the *honeycomb* (making it half an inch over face of glass)? 2. Will the exhibits of honey be unpacked and staged, and repacked and returned to the owner without his attending the show?—HODGE.

REPLY.—1. Whether or not mention is made of lace-edging in schedule referred to, you will do well to conform to the usual rule on that point, *i.e.*, not to cover over three-eighths of an inch of the comb surface, because the judges will no doubt take care that imperfections are not concealed by extra width of covering; they also naturally dislike to see attempts on the part of exhibitors to hide defects. 2. Yes. Every care is taken of exhibits by the managers of the Show, apart from taking responsibility for damage or loss.

Echoes from the Hives.

Heathfield, Sussex, September 26th.—The season here, in East Sussex, for honey has been very variable; even a very few miles has shown a great difference, both in quantity and quality.

My own bees, here at Heathfield Station, have done only moderately, while some belonging to Mr. Masson, of Tottingworth, Heathfield, only about two miles from mine, have done splendidly. From one single hive he has taken 116 completed sections of prime quality, besides several pounds in other forms. Like L. E. Smith and "A. D. J.," I have had some honey this year that I could not get the extractor to throw out, although I kept the combs at a good heat by putting them in a pretty warm copper, but some of the honey wouldn't, and didn't come out; it seemed more like old gas-tar for consistency. I have had no swarms, nor seen any this year, except those two that came and took possession of two empty hives I had got without asking leave. My bees are like "Station Master's" (1552) this year; they've kept it up pretty late. I have never had them store anything in sections after August 1st before, but this time they have filled more sections during the first fortnight in August than all the rest of the summer, and the sections are quite different to what late one generally are; they are well filled and sealed, and of splendid quality. I hadn't but about a dozen unfinished ones out of 150 taken off this last lot. Where they got this late honey from I couldn't discover.—H. N.

West Glamorgan, September 27th.—Now that the results of the season are known, it will be interesting to note the contrasts in regard both to quality and quantity of honey stored in any one county in the abnormal year of 1893. While some have secured fair harvests of excellent quality, the majority of bee-keepers in this county have only had an average crop. Nowhere in this locality do we hear of such large supers being taken as some of your correspondents write about. At the same time everything at honey shows pointed to a general ingathering of early nectar, and the competitions were numerous and keen. My own bees suffered considerably from the effects of the drought; being on high ground, every bit of pasture soon became scorched and dried up, consequently at the beginning of July no bee-flowers were blooming, and the season became as we usually see it in August. Since then, however, copious rains have fallen, and brought out second and late crops of clover, &c., giving the bees a chance to add to their winter store, and to the supers where they were left on; but even then the average yield of my stocks only amounted to about thirty-five pounds per hive. Another feature of the season has been the scarcity of swarms. I wish I could add also of wasps. Where swarms have issued, generally speaking, they have flown at a great height to a considerable distance away, and were lost. As for the wasps—the little thieves!—they have done their best to clear out three hives with me, and succeeded, too—only strong stocks being able to resist their attacks. They have mustered in whole regiments, notwithstanding many nests were destroyed. With the close of September ends this most glorious bee-weather; rains are falling, and a season of rest looms in the near future. But our hopes must not rest or sleep, but, with the recurring seasons, content ourselves with the hope that good bee-days are yet in store for those who can wait for them.—E. B.

Methwold, Norfolk, September 27th.—My best stocks have this year given me about ninety pounds each, and I have never once yet interfered with queens.—F. G.

REVIEW OF CONTINENTAL BEE JOURNALS.

By J. Dennler.

(*Continued from page* 319.)

The Curé Sebastian Kneipp, of Wörishoffen, who has gained a world-wide renown through his popular hydropathic treatment, has just completed a tour in Northern Germany. Amongst other places, he met with great success in Berlin with his popular lectures. According to his opinion, he owes his robust health to the moderate use of hydromel, the beverage so sought after by the people of Northern Europe. S. Kneipp was himself a practical bee-keeper, and published, in 1873, a small work on bee-keeping, and a second edition in 1882.

Bienenzeitung. Forty-ninth year. Editor, W. Vogel.—In No. 10, Arcidurus recommends giving bees, during the winter, water with a little salt in it, which is supplied to them in a feeding-bottle with a curved neck, which is made to enter at the top of the hive. This feeder is invented by Pasteur Ziebold. The method has found a good many followers amongst bee-keepers in Prussia and Saxony. It is not adopted in Alsace; on the contrary, bees are left perfectly quiet here during winter, but care is taken to remove, in the autumn, any granulated honey, and to replace it with sugar syrup or liquid honey.

Oestereichische - Ungarische Bienenzeitung. Sixteenth year. Editor, P. Schachinger.—In No. 6 is described the death of a woman who was stung in the throat whilst eating a piece of comb honey. A bee had remained in one of the cells, and by her sting caused this disaster. Notwithstanding all the care of the doctor who had been called in at once, the woman's throat swelled rapidly, and she died of suffocation. She lived only three-quarters of an hour after being stung.

Two new pamphlets on bee-keeping, published by M. du Chatelle, Inspector of Forests, Vice-President of the Federation of French Bee-keeping Societies, are at the present moment drawing the attention of the French bee-keeping public. They are *La Culture des Abeilles, mise à la portée du Cultivateur*, and *Le Rucher du Cultivateur*, on methods adapted to movable-comb hives. This last pamphlet obtained this year the prize offered for competition by the Agricultural Society of France. The author, who is a distinguished bee-keeper and

fervent advocate of movable-comb hives, so little used in France as yet, has endeavoured to condense in as few pages as possible, first, the principal proofs that bees are useful from an agricultural point of view; second, the best methods to be employed to popularise the cultivation of bees, principally by explaining the best manner of managing bees. We read in the first pamphlet that the actual production of honey is estimated at 7000 tons, and of wax at 2000 tons, of the value of fifteen million francs (600,000*l.*). As the consumption could be even greater, it is important that bee-keeping should be popularised.

(*To be continued.*)

EXPERIMENTS IN APICULTURE IN 1892.

Extracted from "Bulletin" No. 30 of the U. S. Department of Agriculture, Division of Entomology.

Breeding.

During the winter of 1891 the apiary was entirely re-queened, only a few old queens being reserved for breeding. This season the opportunity was taken to replace all those of the former year's rearing that had proven themselves inferior. A number of Carniolan queens were introduced, and queens bred from them. Added familiarity with the cross of the Carniolan bee with the yellow race increases my satisfaction with their valuable traits. They have proven themselves equally as desirable as either race in its purity, and they have some points of superiority.

A test was made of the claims advanced for the Tunisian or so-called "Punic" bees. During the early part of the season they exhibited no traits that would distinguish them from the native black bee, showing the same nervousness under manipulation. They build large numbers of queen-cells, and do not cap their honey with that peculiar whiteness characteristic of the common black bee. After the close of the honey season they best showed their origin and distinctive peculiarities. Whenever attempts were made to handle them, they became exceedingly angry. This trait of excessive irritability seems to be their most distinctive mark. As no point of superiority was discovered, their several manifest defects make them a race not to be recommended as desirable for introduction among our American bee-keepers.

Removing Queen to Prevent Swarming.

As the bee-keeping industry develops, and new methods and devices come into use, each tending to lower the price of the product, an increased tension is placed upon the apiarist in an effort to manage large numbers of colonies to increase his annual yield. The natural tendency of bees to increase by swarming, and the care and attention occasioned thereby, have given rise to various plans for its prevention or control. One of the best of these plans, yet one little used, is outlined in the following, the value of which, at the suggestion of Mr. Aiken, of Loveland, Colo., I undertook to test:—

Early in spring two colonies were selected, as nearly alike in strength as it was possible to get them. They were kept at the same strength, the amount of brood in the hives having been equalised several times. The harvest did not open until about July 6th, and upon the 8th supers were given them. July 12th queen-cells were found partly constructed in colony No. 1. The queen was removed, and four days, and also eight days afterwards, all queen-cells were destroyed. On July 25th (thirteen days after her removal) the queen was returned. This colony did not swarm at all.

The other colony (No. 2) was allowed to work without interference, and it was not until July 21st that they swarmed. As the harvest from linden was about closing, the swarm was returned, and all queen-cells destroyed in the hope that they would not attempt to swarm again before the close of the season. They did not swarm, yet it may be supposed that this interference with their instincts tended slightly to decrease their energy. The results in total amount of honey gathered are as follows:—No. 1 gained in weight thirty-seven pounds between July 6th and 25th, and No. 2 gained forty-six pounds during the same time.

If from the total gain of No. 2 we subtract five pounds as the weight of brood it contained in excess of the brood in No. 1 on July 25th, we still have four pounds as the amount of honey gathered by No. 2 greater than the amount gathered by No. 1. These colonies were both worked for comb honey with like treatment of supers.

This experiment is valuable testimony to prove that the removal of the queen to prevent swarming does somewhat affect the amount of honey gathered by the bees. The supers showed even a larger difference in the amount of honey stored in the sections, for the reason that where the queen is absent, the bees fill the brood chamber with honey. When the queen is returned this will, to a greater or less extent, be removed to the sections. Although the interference in this manner, with the economy of the hive, probably always reduces the amount of honey stored, yet, because of the lessening in the labour and watching necessary during the swarming season, I deem it advisable to follow this method when any similar plan seems necessary.—J. H. Larrabee.

(*To be continued.*)

WHEN DO SECOND SWARMS ISSUE?

I didn't feel satisfied with so slender a show of statistics as I made out of this year's second swarms in my last communication. With so few as 22 swarms, the chapter of accidents has almost as much to do with results as general principles have. I did not relish the big job of collating my whole 14 years of records; but the upshot of it was, that I went and did just that.

I found record of the time of 299 second swarms —a number large enough to pretty well swamp the accidental elements of the calculation. So the figures given below represent "bed rock" *so far as this apiary is concerned.* As I intimated before, I think similar records from other apiaries where "swarm fever" is unknown are likely to vary widely from these. And yet (the world is so full of misconceptions) I feel a little shaky, even about *that* conclusion. I think we are entitled to know in this "end of the age" whether Langstroth's declaration, that the second swarm usually comes nine days after the first, is a "mile off" from the truth or not. Those words, strictly construed, would imply that more than half the number of seconds fell on the ninth day. With me, as you see, it is only one-sixth. The figures given before seemed to indicate that eight-day swarms were much more numerous than nine-day swarms. This is simply one of the errors resulting from not having a sufficient number of swarms under consideration, and the aggregated record reverses it. Both eight-day swarms and nine-day swarms are a little inclined to come in "rafts." Here are the figures for 300 swarms, lacking one.

At 6 days..... 3	At 12 days.....39
At 7 days..... 6	At 13 days.....34
At 8 days.....32	At 14 days.....24
At 9 days.....48	At 15 days..... 6
At 10 days.....46	At 16 days..... 9
At 11 days.....48	At 17 days..... 4

Just look at this table, and think of the absurdity of saying that the second swarm is "sure to come out the eighth day," or "sure to come out the ninth day!" Granting these figures, swarming reaches a maximum the ninth day and continues unchanged three days, the slight decline of two the tenth day being evidently accidental.

To show how easily one's *impressions* may get wrong, I remark that, before collating these records, I thought that twelve days was my maximum. The fact is, that there is a plain though not very heavy falling-off the twelfth day. As ninth, tenth, and eleventh days are alike, so there are three other days quite nearly alike—the eighth, the twelfth and the thirteenth—the twelfth slightly preponderating. Then there is a considerable fall, and the fourteenth day has just half the maximum number. Also the three concluding days, during which swarms are occurrent, but rare, differ but little.

As to the few six-day and seven-day swarms, probably some of them, and perhaps nearly all, are not really normal second swarms. When the superseding of a queen and swarming come on together, the second swarm is usually timed to the first as normal *thirds* are to normal seconds; but I see no reason why occasional ones might not come out six or seven days after. So, to be worth anything, records of seconds at six and seven days must be verified by looking at the prime to see if it really had a fertile queen at hiving-time. This I do not remember of doing in either one of the tabulated instances.

Concerning your practical inquiry about better time rules for cutting cells, I'm afraid that is rather hopeless. Some of us will be content to give up altogether the job of cutting cells to prevent swarming; but cutting ripe cells when we want them to use is also one of our needs; and it is quite vexatious to go to a hive that we think ought to have ripe cells, and find nothing but very green ones; and waiting until the cells are sure to be ripe, and having them all destroyed, isn't very funny either. And we do not all feel "solid" as to whether a cell is ripe or green from the looks on the outside. The prevalence of eight-day swarms brings in a difficulty about destroying cells the eighth day which should not be overlooked. If the bees have made their minds up during the night and early morn to swarm, I do not think the destruction of the cells will change that resolution at once. I should expect them to swarm just the same, and leave the old stand with no queen, and no means of rearing any.—E. E. Hasty, *in "Gleanings."*

Bee Shows to Come.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. W. C. Young, Secretary, Dairy Faamers' Association, 101 Fleet Street, London. Entries closed.

Notices to Corresponuents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. Hood (Kidderminster).—*Width of Entrances in Winter.*—1. Much depends on the construction of hive and the method of "quilting down," or covering the frame tops. If impervious coverings are used, an entrance of, say, four or five inches is best, so soon as risk of robbing is over; but if frames have porous coverings, a much narrower entrance may be allowed, say, one inch. Hives having outer cases, however, have the advantage of a full-width entrance inside so far as the ventilation affects the hive proper, while the entrance in the outer case need only be one inch or less, so as to keep out cold winds. 2. There is no reason for supposing the stock to be queenless.

F. G. (Methwold.)—Many thanks for photograph of your apiary—safely to hand.

Potter Bee.—*Ants about Hive Quilts.*—Powdered naphthaline sprinkled about quilts will keep ants away in addition to assisting to prevent more serious evils.

THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

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3. **Honey on Approval.**—All honey will be sold by sample, which must be sent direct to buyer.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 590. Vol. XXI. N.S. 198.] OCTOBER 12, 1893. [*Published Weekly.*

Editorial, Notices, &c.

DISHONEST EXHIBITING.

A correspondent, rightly deeming the matter important, sends us a cutting from the *Hereford Times* of September 23rd last, according to which a serious charge of dishonest exhibiting was very conclusively proved against the offending bee-keeper, who was penalised accordingly.

It will not be necessary for us to print the whole of the particulars detailed in the cutting referred to, but it appears that a meeting of the Knighton Horticultural Society was convened, the main business being to hear objections to the awarding of prizes to certain winners at the late show in consequence of alleged infringements of the rules. The meeting was held on September 18th at the "Norton Arms Hotel," Knighton. Dr. Graves presided, and there was a good attendance. The first case related to the horticultural division, and after disposing of this the report goes on to say:—

"The next objection taken was that of Mr. John Dewhurst, Panpwnton, against Mr. Evan Griffiths, Cwm, Knighton, for having shown sectional honey at the recent show which was not gathered by his own bees. Mr. Dewhurst stated that the honey exhibited by Mr. Griffiths was sainfoin honey. In this neighbourhood no sainfoin was grown in sufficient quantity to produce whole sections of it. Rule 1 said, 'All honey must be gathered in the natural way by bees the property of the exhibitor.' From his own bees and other people's which he had seen he could not find one iota of sainfoin, and all these bees were in the locality and within easy reach of where it was said some sainfoin was grown. Mr. F. L. Green, son of the Hon. Secretary, said he had seen the farmer by whom it was said this sainfoin was grown, and he had informed him that he had sown some sixteen to twenty pounds of this seed with other mixed seed on an eight-acre field. Mr. J. Palmer, the judge of honey at the recent show, said when judging the honey he was struck with the superior excellence of the sections of honey shown by Griffiths. He felt sure that this honey—sainfoin—could not be obtained in the neighbourhood, and he could at the time have laid a sovereign to a penny-piece that he knew where it had been obtained, as he could count on his fingers' ends where this kind of honey could be found. He had made very careful inquiries, and found that these identical sections had been obtained from Mr. Woodley in Berkshire. He held a letter in his hand from that gentleman stating that he had sent twenty-four sections of this honey to 'Mr. Jones, care of Mr. Griffiths, Knighton,' in July. He (Mr. Palmer) had traced the package from Mr. Woodley to Knighton, and Evan Griffiths had signed the invoice as having received the package. He had no ill-feeling against Mr. Griffiths. He would not read all the letter, as he had read sufficient to prove the case. Without any further discussion it was agreed, there not being one dissentient, that Mr. Evan Griffiths be disqualified according to rule, and that all prize money due to him be stopped, and also that he be disqualified from exhibiting at any future show held in connexion with the Society."

It goes without saying that all honest men will concur in the conclusion arrived at, and will agree as to the flagrant dishonesty and meanness of such malpractices as are detailed above. But the question arises, Are they common among exhibitors at honey shows? Personally we have no hesitation in giving our opinion that they are not. With the ever-watchful eyes of opposing competitors, whose bees work on the same forage, to say nothing of the acumen of judges possessing any experience, it is not so easy for local men to deceive as for those coming from a distance who show in the "open classes," but even in these the percentage of dishonest exhibits is, we think, very small.

In our early days it was considered a discreditable piece of sharp practice—to give it no worse name—if a super being worked on one hive for exhibition purposes was removed to another for "finishing off" because of the stock on which it was first

placed having swarmed. Such tenderness of conscience would probably only evoke a smile in this year of grace; nevertheless, bee-men of to-day are, we hope, just as anxious to put down anything approaching to fraud in these friendly competitions as ever they were, and will approve of our action in giving this publicity to the case in question in order to deter the few who might be so inclined from doing likewise. There is no reason for supposing that dishonest showing is on the increase, although it is within our personal knowledge that well-known and successful exhibitors have been applied to for "a dozen jars of their best stuff," or "a dozen extra good sections," under circumstances so suspicious that the orders have been refused.

It is not often that so clear a case can be established as the one before us, and it is only reasonable to suppose that the offender referred to was not an experienced hand at such malpractices, because a moment's reflection would have taught him that sainfoin sections are as easily recognised as those from heather, and could not possibly be got where the plant is not grown. But, apart from the risk of detection, such tricks are beneath the contempt of right-minded men, while as for those who are not included in this category, they will soon disappear from show-tables if offenders are promptly brought to book, and their names made public, as in the case quoted above.

In conclusion, we may also add that, although all cases of suspected wrong-doing are not capable of such conclusive proof as the one referred to, it is very probable that, before the next honey season opens, we may be in a position to distinguish, with absolute certainty, pure honey from that mixed with sugar-syrup, and thus determine the truth or otherwise of certain suspicions entertained with regard to exhibits where feeding is suspected.

LANCASHIRE AND CHESHIRE B.K.A. SHOW AT BIRKENHEAD.

The above Association held their annual show in connexion with the Wirral and Birkenhead Agricultural Society on the Society's showground, near Birkenhead, on the 7th and 8th of September.

The competition was very keen in the extracted honey classes. The entry of sections in the class restricted to Lancashire and Cheshire was poor, and the judges only awarded one prize in this class. The judges were the Rev. J. F. Buckler and Mr. G. W. Carr. Their awards were as follows:—

Twelve one-pound sections.—Miss Susan Ward, Hadnall Hall, Shrewsbury; 2nd, John Palmer, Ludlow; 3rd, Cathedral Dairy Co.

Twelve jars extracted honey.—1st, W. Woodley, Newbury; 2nd, H. W. Bennion, Audlem; 3rd, J. T. Nickels, Shrewsbury; 4th, Thos. Greenhalgh, Newton-le-Willows.

Twelve one-pound sections (district).—1st, Thos. Evans, Chester.

Twelve one-pound jars extracted honey (district).—1st, Rev. E. Charley; 2nd, R. W. Nickson, Frodsham; 3rd, Rev. T. J. Evans; 4th, O. Roberts, Chester.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

Amount already acknowledged	£45	11	0
Rev. G. W. Bancks ...	0	10	0
G. Stothard	0	5	0
"Be just and fear not" ...	0	3	0
"Let brotherly love continue"	0	3	0
Owen Roberts	0	2	6
W. Boxwell	0	2	0

The list will be closed at the end of this month.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

EXTRACTING HONEY AT SHOWS—THICKNESS OF COMBS IN SURPLUS CHAMBERS.

[1585.] I was pleased to see in the *B.B.J.* of August 17th (p. 322), a description of the glass extracting-house at the Yorkshire Agricultural Show at Dewsbury. With reference to it, however, I would beg to state that, though the Council of the Y. A. S. most kindly granted two compartments of shedding, and

erected the tables as foundation, I was indebted to Mr. W. Smith, of Preston, near Hull, for carrying out my plans, and making the elegant structure, as well as for ably presiding at the powerful extractor, which Mr. Meadows specially made for me. We were gratified at the interest taken in the object-lesson we endeavoured to impart on the use of the various appliances for extracting. In one respect our effort proved costly: it delayed our conveying bees to the moors in time for another splendid harvest. Still, we hope many were instructed and encouraged to improve their apiaries.

A word about the honey: the exquisite colour I attribute to the quality of clover we have in this neighbourhood, and the level capping to the principle of keeping strong stocks during the honey-flow, and perhaps, also, to supering with crates holding only nine shallow frames.

Two gentlemen who witnessed our operations flattered us by a request to repeat the exhibition in a large town at Christmas, and were hardly convinced that it would be difficult to keep the combs in a fit condition to extract in mid-winter.

Another question a friend asked was, whether I did not consider that we had reached perfection as regards the apparatus for honey-production? I said at the time, "I thought so;" but, on second consideration, I must say, "I think not." For instance, to save time and labour, we want a good, rapid uncapping machine. Then I feel we should do away with sections for two or three reasons: because (i.) In ordinary seasons comparatively few out of every gross are finished sufficiently to be presentable, while shallow frames are taken to and worked more quickly and satisfactorily. (ii.) After the comb has been in wood for a month or two, the honey loses its delicacy and value. (iii.) By gradually increasing the distance between the shallow frames, much thicker and handsomer combs can be produced than in sections. (iv.) Simplicity and economy are gained with the above advantages, for if the same shallow frames can be used year after year, and are more reliable and effective than sections, why should we be constantly buying and making up the latter?

I am convinced, after bee-keepers have fairly tried to produce thicker combs in shallow frames, and a few more articles are penned like that signed by "Hemlock Stone" on page 383, the demand for sections will rapidly diminish.

As I have been trying for more than ten years to coax the bees to make extra thick combs, I am eagerly looking forward to the report of the next meeting of the Committee of the B.B.K.A., when you hope to bring up the width of shallow frames. I trust, however, the result will be more definite than was the case in the discussion about the density of honey or standard bottles.

In the meantime I would offer a problem for solution to the leading bee-keepers, to accentuate the difficulty which appears to me in connexion with this subject: Would they recommend bee-keepers to have two sets of metal ends for supers, so that when the bees have worked out the space given by the narrow ends, they could be exchanged for the wide; or would they recommend the use of wider ends only (and, perhaps, wider frames also) for supering?—RICHD. M. LAMB, *Burton Pidsea Rectory, Hull, October 5th.*

NOTES BY THE WAY.

[1586.] We had a splendid rain yesterday that has filled our ponds and tanks with the first necessary of life, and our farmers will be very glad to be relieved of the labour and expense of drawing water from the wells for their cattle, and to-day the sun is shining quite warm with a temperature at three p.m. of sixty-six degrees. The bees are sporting in the sunshine, and a few diligent ones finds a little pollen, possibly from mustard, of which we have some fields in bloom.

Can any of our bee-keeping friends give information in regard to the spraying of fruit-trees, as suggested by the Board of Agriculture; if such spraying has been prejudicial to bee-culture? I notice two of the compounds are of a very poisonous nature, viz., "Paris green" and "London purple." No time is mentioned as to when the spraying is to be done; that is left to the discretion of the fruit-grower, and in the present prevailing ignorance of the relation of insects and fruit-blossom, it is more than probable that the fruit-grower would spray his trees just as they were in full bloom, and cause death and destruction to any insect that visited the flowers after the spraying, and as we know the hive bee (*Apis mellifica*) is the most numerous and the most useful agent in the fertilisation of the fruit-blossoms, and thereby ensures a future crop—I say we know that the bee-keeper will be the one who will have to bear the loss by having his stock poisoned by thousands. Now, friends in fruit districts, if you have any cause to complain, let us hear of it.

I notice Mr. M'Evoy, in *American Bee Journal*, goes more fully into his method of curing foul brood, explaining how the disease first broke out in his apiary in 1875, and how he tried different plans of curing it until he discovered his present method, which, he asserts, is successful in every case. Mr. M'Evoy says he has handled, cured, and got cured in the last seventeen years more foul-broody colonies than any other 200 bee-keepers in the world put together. This is saying a good deal, and if the M'Evoy method is a positive cure for the disease, it ought to be fully known wherever bees are kept.

Judging honey at shows and methods of judging may prove instructive to all connected with the craft. I have received some little correspondence on the subjec. One asks: "Do you consider it fair for a judge to adjudicate on sections of comb honey by outside appearances only, and not taste the contents?" To this I replied, most certainly not; comb honey is an

edible food, and the flavour, consistency, and bouquet should count especially. It may look beautiful to the eye, and be adorned with the prettiest of lace edging, the sections may be well filled, the capping perfect, and the exterior appearance may warrant the judge in awarding premier honours; yet, if the points were more fully spread out on all the possible superlatives of the sample under consideration, it is very probable the award would be given to another exhibit.

Borrowed plumes is another subject that is disquieting the minds of exhibitors of bee-produce in districts widely situated. Is it right, is it just, is it manly, is it English, to exhibit honey that has been *purchased* as the produce of one's own apiary? Letters of inquiry and complaint have reached me during the past few weeks from the north, from the midlands, from the west, and from the metropolitan district in the east, all relating to this subject.

This is a subject that should be probed to the bottom, and committees should endeavour to prevent, as far as possible, the (I fear) growing practice by inserting stringent clauses in their schedules against such a nefarious practice.—W. WOODLEY, *World's End, Newbury.*

POSERS.

[1587.] The "poser" in *B. J.* for September 28 (page 390), is not inexplicable. "Lectures *on* Mosquito Netting *in* Modern Bee-keeping" should have the "in" and "on" transposed, but it is still oddly expressed. The real *poser* to me in same number is your contributor "Man of Kent" (1567, page 386.) Are his queens antiquities, or have they foul brood? What *can* it be that makes his case the exception in all Kent? Is he a subscriber to the Kent Bee-keepers' Association? If he is not, *that* may account for his bad luck (?). But in any case the members would like to render aid, for his average of "seven pounds a hive" in 1893 is a libel on the county's bee-keeping character! Allow me to contribute an extract from a letter of which I happen for the moment to be the fortunate possessor. It is from a bee-keeper in Kent—a lady bee-keeper, too. I think it is but fair to call her *the* "Woman of Kent," for surely no other lady bee-keeper in all our county can have done as well. The letter is dated September 29th, 1893 (don't be inquisitive, Messrs. Editors, because if you ask for the address you won't get it). "We have finished taking honey this week. We have taken 733 pounds from eleven hives, and left them plenty for the winter." I am sorry to say that her bees are likely to lose her services very soon, inasmuch as her honeymoon is fast approaching, but I ought not to feel sorry, for she will not be lost to Kent. And further, it is clear from what I tell you that there is certainly one *lucky* man *in* Kent, as it is certain (from your *Journal* of September 28th) there is an *un*lucky one. Perhaps as a bee-keeper I am feeling a little bit envious, but although I am not the lucky man, I am nevertheless—ANOTHER MAN OF KENT, *E—d, October 3rd*, 1893.

EUCALYPTUS HONEY.

[1588.] In your issue of June 1st, in reply to query No. 790, page 216, "Is Colonial Honey as good in all ways as British?" you say, "We do no injustice to our colonies by saying 'no' to this query. Good colonial honey there is, no doubt, but much of it is so rank and strong in flavour as to be wholly unfit for table use. This is especially the case in some parts of Australia and New Zealand, where the Ti-tree and the various eucalyptus or gum-trees grow so abundantly as to quite spoil the flavour of the better class of honeys collected in such districts."

Now, sirs, will you be good enough to permit me to point out where you are quite mistaken in your remarks, and how you have done a very great injustice to these colonies, or at any rate to the one (Queensland) where I live, by making such a sweeping charge against one of our by no means least important "national industries." A brother bee-keeper who has read your article sends me a strong letter on the subject, complaining with righteous indignation that the statement that "Australian honey is unfit for table use" has now been scattered broadcast over Great Britain, and as emanating from such a source will be believed by all who read it, thus in a great measure boycotting "Eucalyptus honey."

I will now point out the very serious mistake you have made, and then furnish you with proofs to verify my statements.

The idea you entertain that the eucalyptus or gum-trees quite spoil the flavour of honey is to us simply incomprehensible, as the fact *is quite the reverse.* Surely the writer of that article can never have tasted *pure* eucalyptus honey. We reside in one of the best forest districts in Queensland, and our honey is almost *entirely* gathered from the various kinds of eucalyptus-trees.

From the top of our mountain, far as the eye can reach in every direction, are seen hundreds of thousands of gum-trees (if I said millions I should not exaggerate). In the "clearings" are grown sugar cane, bananas, pineapples, orange-trees, and other fruit-trees, but very little honey is got from these sources. I mention these particulars to show you that ours *is* eucalyptus honey, and can have very little of any other kind of honey in it. Hence it follows—if your article is correct—the flavour of our honey "must be spoilt" by reason of its being "pure eucalyptus honey."

Now, we consider our honey "delicious," and we know somewhat about English, French, and Swiss honey—but in addition to the flavour of ours being nice, we claim that it is *the best kind of honey in the world,* by virtue of the medicinal qualities that are so well known as appertaining to the eucalyptus.

Now, to prove my case I could give you the names of a great many people in England who have got our honey during the past two years, but at present will give you two brief extracts, from men whose opinion on the point in question is worth a good deal. You can verify these, and read the whole of the articles referred to.

In *Rural Notes*, March 19th, 1892, Mr. J. Muir, Margam Abbey, says:—"It is of a brownish amber colour, not so bright as the best samples of English honey, but greatly superior to many lots I have seen in this country. The flavour, which is really the most important point in all honey, is different to that of English honey, but very agreeable, and the eucalyptus flavour can be distinctly traced. I was curious to sample the honey, and I am very much pleased with it."

Mr. R. A. H. Grimshaw (who, I think, is well known to you) says in an article on "Pure Honey," too long to quote here entire, "I have several times had samples of so-called eucalyptus honey submitted to me for my opinion before steps were taken to import in quantity, and I have had to condemn it as an unpleasant addition to our dietary. Mr. Smith took the trouble to write to me, and explained that the honey he sent over was gathered from the flowers of the eucalyptus. I therefore went to his agent, sampled the honey, and at once ordered a sixty-pound tin. I found, from the flavour of his honey, what I had long suspected—that the previous samples of honey I had tasted were nothing more than syrup or poor honey flavoured with oil of eucalyptus, while this in question was nectar gathered from the flowers of the gum-trees, and converted into honey by the bees. The latter was nice, the former nasty. To my mind, the most useful point about honey as a medicine is that its flavour is caused by the active principle of the plant from which it is gathered permeating the exuding nectar."

I am aware that quite a lot of honey has been shipped from this colony, and from the others also, I believe, called eucalyptus honey, much of which was "unfit for table use," I should imagine; but to fully explain this part of the subject would make this letter too long—suffice it to say that this class of honey is not labelled with the name of any bee-keeper.

What we "advanced" or practical bee-keepers so strongly object to is, that you officially state as a fact that "the eucalyptus trees quite spoil the flavour of the best honey," whilst we assert, on the contrary, that the eucalyptus not only gives a nice agreeable flavour to the honey, but it goes far beyond that, by endowing it with those well-known medicinal virtues that place it absolutely first among the honeys of the world not only as an article of every-day food, but as a powerful remedial agent.

The ti-tree only grows in low-lying, swampy places (we live on a mountain), and it is not so objectionable as you paint it.

I trust to your sense of English justice and love of fair play to insert this, as you have so widely circulated a misleading impression calculated to do the colonies a very serious injury. I cannot send you a sample yet of our honey, as we do not ship until October, and our agent is long since sold out.—JOHN SMITH, *Mount Cotton, near Brisbane, Queensland, August 26th*, 1893.

[It would have been more satisfactory if our correspondent had been able to peruse the article on eucalyptus honey which appeared in our issue for September 21st before penning the above. We trust, however, that the prompt insertion of his communication—which has only just reached us—will tend to reassure him that there is no intention of the part of this *Journal* either to initiate or encourage anything in the shape of "boycotting" (a term we hate most cordially) what is either useful or good for bees or bee-keepers. At the same time, we have nothing to qualify or withdraw from what has appeared in these pages with regard to eucalyptus honey. We have given our opinion regarding it in all honesty and good faith, and that opinion has been endorsed by every one here to whom the samples of honey referred to have so far been submitted. But we entirely disclaim any intention of damaging the reputation or injuring the sale of Australian honey, either from the eucalyptus or from any other source. Our view is that eucalyptus honey will find no favour here as a *table honey*. And it is for Australian bee-keepers to test this point if they differ from us. We suggested to Mr. Pender, when here, that a ton of eucalyptus honey should be sent over, and put on the British market as a sample consignment. This done, its value as a table honey would soon be appraised, and we shall be very pleased if our estimate of it is wrong.—EDS.]

BRITISH BEE-KEEPERS' ASSOCIATION.

The next *conversazione* will be held at 105 Jermyn Street, London, S.W., on Wednesday, October 18th, at six o'clock. A paper on "Bee-keepers' Associations and Honey Sales" will be read by Mr. A. D. Woodley, Hon. Sec. of the Berkshire Association.

Members desirous of introducing subjects for discussion, or to submit new appliances, are requested to communicate with the Secretary not later than October 16th.

The Annual Second-class Examination, and also a Special Examination in regard to the nature and treatment of "Foul Brood" will be held on October 27th and 28th.

JOHN HUCKLE, *Sec.*

Kings Langley, October 7th.

BEES AND FRUIT-CULTURE.

An American agriculturist raised the question a short time ago as to the necessity of insect visits to the flowers of pears and other fruits affected by blight. It was shown that the organism causing blight was disseminated by insects during their visits to the blossoms, and it was thought that if by some practical means

insects could be excluded from the flowers without interfering with the fruitfulness of the trees, one form of blight might at least be prevented. A series of experiments were made at Brookport, New York, to obtain some information in regard to the effect on fruitfulness of excluding insects. These experiments were made under the direction of the United States Department of Agriculture, and the results, which are certainly startling, have been published. The results seem to indicate a fact hitherto overlooked by scientific and practical men—viz., that many well-known varieties of pears will not set fruit unless their flowers receive pollen from other varieties—that is to say, the visits of insects, by means of which cross-fertilisation is effected is necessary to ensure proper setting of the fruit.

Further information on the subject being required, some extended experiments were made, the work being carried on in Virginia, New York, and New Jersey. The results in every case confirmed those previously obtained. Thus it would seem that most of the common varieties of pears and apples are unable to fertilise themselves. Of course, this has been touched upon by Darwin, Knight, and others; but it would appear that no one has advanced any theories as to the common fruits. The lesson for the fruit-grower is to select his varieties and to plant them in such a way as to ensure cross-fertilisation. It is well known that unfruitfulness in many cases is due to the fact that large blocks of single varieties have been planted. In such cases there is not sufficient foreign pollen to effect fertilisation; consequently the trees bloom profusely, but no fruit seeds. In planting varieties, a number of important points must be observed. The time of the flowering of the different varieties must be kept in mind in selecting those designed for pollenating; also the question of the potency of pollen with respect to the variety it is intended to grow must of necessity be considered.—*Pall Mall Gazette.*

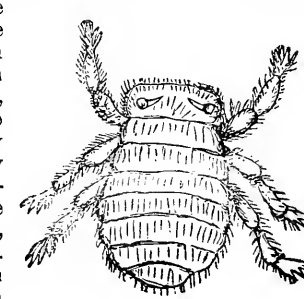
Queries and Replies.

[899.] *Moving Bees.*—A constant reader of the *B. J.* for nearly two years, I am much interested in its contents and always on the look-out for its weekly appearance. Now I want to ask: 1. Is the comb sent foul-brooay? I destroyed the bees and combs of the hive from which it was taken and buried the lot! During last spring not much pollen was carried in, nor could I find a queen, but there was plenty of stores. I had only one other frame hive, from which I took this year sixty-nine one-pound sections and the brood chamber is packed with food. The bees also seem very healthy and are carrying in pollen in abundance. I have now bought five stocks of bees, two of which are within one hundred and fifty or two hundred yards of mine. 2. When would it be safe to move them?—as the seller wants me to take them away as soon as I can. The other three stocks are located half a mile away, and this seller is also anxious to have the bees cleared out, but I have bought on condition of waiting your decision as to removal. I have been wasp-hunting and send a sample. 3. Are they queens or a species of large wasp? I destroyed nearly a hundred of them. If these are queens a good deal might be done to destroy them at this season, as they can be found laying about in old bags or sacks in damp places.—W. J., *Royston, Cambs, October 4th.*

Reply.—1. It is a pity you did not wait reply as to combs and frames before destroying them, for sample sent contained nothing to indicate disease, only pollen and honey. 2. You shou d endeavour to defer removal of the bees now only 200 yards away (if not both lots) till cold weather has kept them indoors for a couple of weeks. There is less risk with those half a mile off, and if some little pains are taken to alter the appearance of the hives temporarily till the bees have flown a few times, they might be moved a week or so hence. 3. The packet of wasps sent are all queens, save one, which is a hornet.

[900.] *Bee-parasites on Queen.* — I enclose a queen just removed from a hive of mine, as she is over two years old, I know, and I should be much obliged if you could tell me what these insects are that are on her; she had about seven on her body when I took her out. I never had any of these insects on my bees before. I brought four lots of bees over from the North of France that I drove in August, and they had a great many of these insects on them, the queens especially; and since that they are in all my hives, seven in number—not on all the bees, but about one in a hundred. Are they likely to increase, and what had I better do to get rid of them? The French bees I brought over were all very vicious; perhaps this had something to do with it. The expert who has just examined my hives says he has never seen them before.—F. Fox, *Epsom, October 3rd.*

Reply.—Queen received is infested with the *Braula cæca*, or blind louse, a bee-parasite which causes trouble or annoyance sometimes in apiaries on the Continent, from whence it finds its way occasionally into this country on the bodies of bees, as in your case. The illustration here given shows the form



of the insect (much magnified), its colour being dark red. Though active in its movements, it clings tenaciously to the bodies of the queen and more or less of the workers—the queen always

coming in for a share; but the fumes of tobacco will cause them to drop on to the floor-board, when they may be destroyed. Unless very numerous they may, however, be left alone, for the insect seldom lives more than a few months in this country, the climate being unsuited to it.

[901.] *Froth on Surface of Extracted Honey.*—Whenever we extract the honey, we have a thick, sugary mass appearing on the top. This puzzles us very much, for we never had it before. What could be the cause of it? When we remove this mass from the top, the honey below is no way affected in flavour. Would it be safe to use this sugary mass as food? Or would it be right to feed the bees on it during the winter? A reply in your next issue will oblige—HIBERNUS, *Co. Wicklow, October 3rd.*

REPLY.—The "sugary mass" is probably nothing more than the minute air-bubbles which rise to the surface of extracted honey after it has been allowed to stand for a while. If the top portion is skimmed off into a jar, and the latter allowed to stand for a time in hot water, the honey will assume its liquid form, and may be used for food without any risk.

[902.] *Giving Young Queens to Driven Bees.*—As a beginner, I would ask your advice on the following points:—I bought a five-pound lot of driven bees, and hived them in a frame hive on empty combs. Eight days ago I fed them as rapidly as circular zinc feeder would permit on syrup, as directed in *Guide-book*. Several of the six frames they are on are filled, but none sealed; neither did I see any brood, though a very little pollen has been taken in. To make sure of success next spring: 1. Would you advise the introduction of a young queen now or then? 2. As it is not at all likely I should find the old queen among so many, would you advise my trying the method described?

REPLY.—1 and 2. Unless there is some reason for supposing the queen of the driven bees to be old, we see no reason for troubling about re-queening, either now or in spring. Besides, there is always an element of risk in re-queening, which we advise you to avoid under the circumstances.

[903.] *Transferring to Frame Hive.*—I have just got a strong stock of bees in a straw skep (an early June swarm) which has stored a large amount of honey. Should you advise my transferring the bees into a frame hive now, or is it too late in the season to do so? I could give them frames of sealed stores taken from other hives. All my hives stand in a shed, so there is no fear of the skep becoming damp. I do not require the honey in the skep. Kindly say whether you would advise my transferring the bees *now* or in the spring. — B., *co. Galway, October 2nd.*

REPLY.—With such favourable surroundings it is largely a matter of choice or convenience whether the bees are wintered in the skep or transferred to the frame hive. It is certainly not too late in the season to put driven bees on "frames of sealed stores;" and, if there is little or no brood in the skep at the present time, it would, perhaps, be best to take that course; because, if the operation is deferred till spring, some brood may be "chilled" if the operator is unskilful or inexperienced. In the latter case, all risk and some trouble would be saved by wintering the bees in skeps as they are, and in the spring setting the skep on top of the frame hive—the latter being furnished with ready-built combs—and allowing the bees to transfer themselves into it when they need room.

Echoes from the Hives.

Roundwood, co. Wicklow, October 3rd, 1893.—Our honey season this year has been very fine, and the honey crop, it must be said, exceptionally good. We have two hives, but had no swarms. The yield was more than one hundred sections, and very near ten bar-frames of honey.—HIBERNUS.

HOW TO INCREASE THE WHITE-HONEY CROP.

What a splendid thing it would be if we could increase the white-comb honey crop forty per cent.! I was in St. Paul some years ago, and had a small quantity of section honey to dispose of. A certain dealer was recommended to me who was said to buy nice honey. I found him, and offered my goods.

"Is your honey white?" he asked.

I said it was very good honey.

He answered, "I don't care anything about whether it is good or not; what I want to know is, is your honey white? If it is white it will sell whether it is good or not. I know that dark honey is sometimes better in eating quality than white, but it will not sell. If your honey is not strictly white, I do not want it; if it is white, bring it along, and I will give you a good price."

My honey was not strictly white, and I failed to make a sale. Three poor crops have left St. Paul and Minneapolis markets bare of white-comb honey, and yet dark goes begging. White-comb honey is what we want, and in this article I propose to tell how I expect to increase my crop fifty per cent. this year. Last year, at the end of the white-honey flow, I took off all my supers of sections, whether they were finished or not. I picked out the finished sections that were properly sealed, crated them, and then extracted the partly finished ones. This extracted honey I sold readily for 12½ cents per pound. This was more than it would have brought if the sections had been left on the hives and finished with dark honey. I set those empty sections of comb into supers, spread a sheet of paper between each super, covered all tight to keep out mice, and now, at the com-

mencement of the flow of honey from white and alsike clover, I have nearly 100 supers of twenty-four sections each filled with empty combs, and I am filling each super with twelve sections of comb and twelve with full sheets of foundation, the combs having been all levelled up evenly and smoothly on the handy comb-leveller.

Honey is now coming in here at a great rate, as there are 100 acres of alsike within two miles, and I have found cases in which the twelve sections of drawn combs were nearly filled with honey in three days without those with foundation being touched at all. Clover is just fairly opened. The basswoods are fairly bending with blossoms, and you need not laugh when I tell you that it was my great modesty that made me name fifty per cent. as the measure of the increased crop by having sections of drawn and levelled combs in which the bees could deposit their loads of nectar without having to wait to build store combs, for I expect to increase my crop fully 100 per cent. this year. When the basswood flow is over, I will take off all the supers, take out the finished sections, extract the unfinished ones as I did last year; but the empty combs will be immediately levelled up and returned to the supers, half comb and half foundation as before, and the cases will then be returned to the hives, to be filled with dark fall honey. This honey will, at the end of the season, be extracted, and either sold or reserved to feed the bees, and raise millions of workers for the next year's white-honey flow. The empty combs will be given to the bees after they are extracted to be cleaned of all honey. This will be done by returning the combs to the supers, and then, some fine evening, when the bees are flying, set the supers all out in the yard, without any covers, so that the bees can get at them without hindrance, and they will clean them all up by night. In the evening, after all the bees have gone home, the supers will all be removed to the iron honey-house, where no bee can enter, and no robbing will be excited. The combs will then all be levelled up immediately, as they work much nicer when fresh; they will then be returned to the supers, and piled up as high as I can reach, with a sheet of paper between each super, to be used next year in the same way, to secure another big crop of that orthodox luxury—white-comb honey.—B. TAYLOR, *in "Gleanings."*

EXPERIMENTS IN APICULTURE IN 1892.

(*Continued from page* 400.)

WAX SECRETION.

To determine the amount of honey consumed by the bees in secreting one pound of wax, this experiment, first undertaken in 1891, was repeated this year. As the conditions were much more favourable, the results were very gratifying. There was an entire absence of a natural honey-flow, the weather was favourable, the colonies were of the same strength and in prosperous condition, they took the food rapidly, and built the comb readily. The result gives a less amount of honey as necessary to be fed the bees in order to have one pound of wax secreted than was obtained in this experiment last year. This was to be expected because of the more favourable and exact conditions.

Two colonies were taken which I have designated as Nos. 1 and 2. No. 1 was given a virgin queen, and no comb or honey. No. 2 was given a virgin queen and empty combs. It was noticed that the bees did not fly from either of these hives as vigorously as from the others of the apiary, and that No. 1 was more quiet of the two. Twenty-four and a half pounds of food were given, and almost exactly one pound of wax was secreted by No. 1. By weighing the combs before and after being melted, and taking the difference, the amount of pollen was ascertained. In both colonies the young queens had begun to lay, having been fertilised during the ten days the experiment was in progress. I now feel confident that more careful work on the part of others who have undertaken to solve this question will give practically the same results as are summarised below:—

	Colony No. 1.		Colony No. 2.	
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
Weight of bees	7 5	.....	7 3	.....
Gross weight, August 2, with bees	.....	27 8	.....	34 4
Gross weight, August 12, with bees	42 10	.....	.....	56 3
Gross gain in weight in ten days	.....	15 2	.....	22 4
Feed given	24 8	.....	24 8	.....
Minus honey extracted	12 8	.....	20 8	.....
Leaves honey consumed	12 0	.....	4 0	.....
Honey consumed by No. 1 in excess of No. 2: 12 – 4 = 8 lbs.	.....	.....	.....	.....
Wax secreted by No. 1	15½	.....	.....	.....
Pollen in combs at close	1 8	.....	2 0	.....
Honey, wax, and pollen removed (8 lbs. honey consumed in secreting 15½ ounces of wax)	14 15½	.....	22 8	.....

PLANTING FOR HONEY.

There were in bloom at the station this season three acres of sweet clover (*Melilotus alba*) sown in June, 1891. It was sown upon rather poor

clay soil, yet it made a fair growth last fall, and came through the winter in good condition. It began to bloom July 8th, and continued in bloom until the 20th of September. The period of greatest bloom and honey-secretion was from July 20th to September 1st. It grew rapidly, and was very rank, reaching a height of about six feet. The amount of bloom was great, and the bees were continually busy upon it; yet, during the period from July 24th to August 10th, while it was in full bloom, and while all other natural sources were absent, no honey of any appreciable extent was gathered, and the hive upon the scale lost in weight. Probably some honey was obtained during the season from this sweet clover, but in such limited quantities as to make any estimate of the value of the plant as a honey-producer impossible. At the present time the ground is covered with brush, so that labour will be necessary in clearing the land before ploughing can be done.

With the idea of obtaining an opinion of the value of sweet clover as a silage plant, an alcohol barrel was filled with cut stalks, solidly packed and sealed tight. This was done on July 14th, just as the clover was getting fairly into bloom, and while the stalks were yet tender and nutritious. On September 23rd the barrel was opened, and the ensilage was fed. A horse that had previously eaten corn silage ate it very readily, but another horse and a cow that had never eaten silage would not touch it. Several experts upon the subject pronounced it excellent. There is no doubt but that it would be a very desirable plant for the purpose if the feeding value per acre could be made equal to that of corn. An estimate made from the amount cut for silage gave between six and seven tons per acre. Although its feeding value may be much higher than that of corn, it is still doubtful if it will pay to use it for this purpose alone, from the above estimate.

In concluding these experiments in planting for honey carried on by Prof. Cook, and now concluded for the present, I desire to say that no results have been obtained with any plant sown or planted for honey alone that will warrant the bee-keeper in expending money and labour in this direction. Bee-keepers have in the past spent much time and money in the effort to cultivate some plant for the honey the bees may obtain from its flowers. In no case coming under my observation have these efforts been a success, and the practice has never been continued at a profit. Therefore, let me caution all apiarists against spending money in the attempt to cultivate at a profit any flower for honey alone. Bee-keepers should cease these useless efforts and turn their attention more persistently to extending the area of all wild honey-producing plants, and urging upon all the superiority of Alsike clover and Japanese buckwheat as farm crops, and the Linden as a shade tree.

The Evaporation of Honey.

Nectar of flowers taken into the stomach of the bee undergoes certain chemical changes before it is finally deposited as honey in the cells of the honey-comb. The recent analysis, by direction of the United States Government chemist, and those instituted at the Michigan State Experiment Station, prove that there is no chemical change made in the honey by the bee after it is deposited in the comb. There, however, remains much water in this honey that must be evaporated by the hive and the current of air through the hive caused by the fanning of the bees. It is well known that this labour of evaporation and the room occupied by this thin honey interferes greatly with the rapid gathering of nectar. In this opinion I am confirmed by a study of many records of colonies placed upon scales during the honey-flow.

It is often desirable to extract all of the honey gathered from one species of honey-plant before the flow from other sources begins, and before the former has ripened to the usual consistency of good honey. The property of granulation in honey is so troublesome that its prevention would be very desirable. The experiments in this line have plainly indicated that the "water of crystallisation" can be easily expelled by a proper artificial heat, and the product sealed, so as to preserve it in a liquid state for an indefinite time. For these reasons it was thought best to experiment in this direction with various forms of artificial heat in the effort to devise some cheap and sure method to assist the bees in this work.

For this purpose there were constructed a series of six shallow pans, nineteen by twenty-eight inches in size, with partitions two inches in height, open on alternate ends, similar to the partitions in a maple-syrup evaporator. These were arranged in a cabinet, one above the other, so that honey entering at the top was obliged to flow some seventy-five feet before passing out at the bottom. An oil stove was placed beneath the whole, and a pipe at the top caused a current of heated air to pass upwards over the honey. The fumes of the stove were carried off by means of a second pipe, in order to avoid all danger of their injuring the flavour of the honey. Honey of average body, with ten per cent. by weight of water added, was reduced again to the normal condition by passing twice through the pans at a temperature of 120°, and about 100 pounds per day was evaporated at that temperature. Thin nectar, extracted from the hive very soon after being gathered, was evaporated to the thickness of good honey at about the same rate.

This apparatus was kept in operation about ten days upon honey of various thicknesses, and upon clear water with the above definite results. The flavour of the first honey was injured, probably by the first acid action of the honey upon the outer coating of the tin. Afterwards this was not as apparent. The colour was also somewhat affected.

The heat of the sun was also tried for purposes of evaporation. A shallow pan, twenty-eight by fifty-four inches in size, was filled three

inches deep with thin honey. This was covered with glass six inches above the honey, and left in the sun for four days, when about five per cent. of the moisture was evaporated. As the honey lies at rest the water rises to the top, somewhat aiding evaporation. The flavour and colour are not affected as much as by the method of running through pans. In this way honey with thirty per cent., and even forty per cent., of water added was evaporated to the consistency of very thick honey in three weeks' time, so thick that it has not at this date showed any sign of granulation.

During favourable periods of sunshine a temperature of 165° was reached. By this method a tank four by six feet, with six inches of honey, and weighing 1300 pounds, should be evaporated ten per cent., or from the consistency of freshly gathered honey to that of average body, during about two weeks in July or August.

The common method of exposing to the air in open vessels in the warmer upper story of a building was also tested with honey to which ten, twenty, thirty, and forty per cent. of water had been added. That having forty per cent. added became strongly fermented in a week's time, while only a slight change had taken place in the thirty per cent. dilution, and at the end of a month it tasted like a very poor quality of commercial extracted honey, or like honey-dew. The twenty per cent. dilution was not nearly as bad, and the honey with only ten per cent. of water added was, during the month, returned to the consistency of very fair honey.

Nectar extracted two or three days after the combs were placed in the hives contained, during the dry weather of July and August, from ten to fifteen per cent. of water above the amount always found in honey that had been sealed in the comb by the bees. This was determined by evaporating in test tubes in hot water.

Summary.—1. The method at present promising best results for artificial evaporation is that by solar heat under glass well ventilated. A small portion of a greenhouse or forcing-house arranged for conserving the heat of the sun, and so located that honey could be run into the shallow vats directly from the mouth of the extractor, and drawn off from the bottom of the vats into marketing receptacles, should give good practical results.

2. Very thin honey or nectar will not sour as quickly as supposed by many, and may be safely kept during any period of cloudy weather we may have during the hot summer months.

3. The method of exposing to air in a warm room cannot be depended on to ripen very thin honey, although it may be serviceable for evaporating a very small percentage of water.

4. The method of evaporating by artificial heat of stove or furnace is expensive and troublesome, requiring constant watching and care, and not giving as good results as had been hoped for.

5. The possibilities in the line of evaporating honey for the purpose of increasing the yield and preventing granulation are very great. A series of experiments to determine the increase in production by extracting freshly gathered honey would be next in order and value. When the utility of this method is fully demonstrated, supers with fixed frames and extractors holding whole cases will be used, and other apparatus conformable to the needs of the new system.

(*To be concluded next week.*)

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of September, 1893, was 2911*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Bee Shows to Come.

October 10th, 11th, 12th, and 13th.—Dairy Show at the Agricultural Hall, Islington. Liberal prizes for honey. W. C. Young, Secretary, Dairy Farmers' Association, 101 Fleet Street, London.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Packages for Sections.—Mr. F. H. Hargrave writes:—"In reply to your correspondent 'T.K.' (p. 388), I can supply the boxes for one-pound sections (see advertisement in this issue)."

G. W. G.—Sample of honey is so strongly impregnated with the perfume previously contained in the bottle in which it reached us that we cannot judge its quality well. It seems a fair quality of honey from mixed sources, and though not first-rate is certainly a "saleable honey."

A. E. Shortell (St. Leonards-on-Sea).—We cannot trace any piece of comb left at this office by your friend. Will you kindly say on post-card to whom it was given?

A. L. Y. M. (Northants).—Comb foundation sent is of very good quality.

A. McG. (Croftamie).—*Foul Brood.*—Comb sent is badly affected with foul brood—so bad, indeed, that we should burn the combs at once. It would be useless at this late season to attempt curing a stock so badly diseased. Use preventive in any other stocks you may have.

Rev. R. M. Lamb (Burton Pidsea).—Many thanks for photograph of extracting-house, which we will keep by us for future use. The honey sent is so strongly suggestive of *glucose* that we shall have it analysed, and hope to give the result later on.

THE

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER. — Beyond saying that the weather of the present autumn keeps fairly favourable, and that bees are still on the wing—some days carrying in pollen — there is nothing to report in the "weather" department, except to express satisfaction that so little autumn feeding is required to carry stocks over winter, and that, if food should be needed, the open weather will enable the bees to take it freely.

MARKET FOR BEESWAX.—Most bee-keepers, on winding up active operations for the season, will find themselves in possession of accumulated stock, more or less weighty, in the shape of beeswax, the melting down of combs, cappings, spoiled sections, &c., and it will be a "useful hint" to inform them that the very fair price of 1*s.* 3*d.* per pound may be got for large or small parcels of British beeswax by applying to Messrs. Abbott Bros., the well-known appliance manufacturers, who will, we understand, either pay in cash or give liberal exchange in goods.

EXPERIMENTS IN APICULTURE.—We trust that every reader of this *Journal* will carefully peruse Mr. Larrabee's report on the various experiments in apiculture made by him under the auspices of the United States Government, and now being reprinted in our pages. The results given are, in some measure, subversive of generally accepted notions, not the least interesting being that of the quantity of honey required to be taken by bees in order to secrete a pound of wax, because of the important bearing it has on the question of the economy, or otherwise, of the free use of comb foundation as against the plan of allowing bees to provide the wax for building their own combs. Not that we consider the result does away with all the benefits obtained by using foundation, because there is the saving of the bees' time to be considered, but it certainly reduces the advantages considerably to be told that it takes not twenty but eight pounds only of honey to make a pound of wax. Another interesting experiment is that referring to the removal of queens to prevent swarming. It has often been stated that the removal of queens at the beginning of the honey-flow is—apart from the prevention of swarming—largely conducive to an increased honey crop, because of the smaller amount of hatching larvæ the workers have to look after and care for consequent on the queen's removal. Mr. Larrabee's experiment, however, shows that less honey was gathered by the stock during the thirteen days the queen was away than in the colony whose queen was undisturbed. In the concluding portion of the valuable report under notice (which appears on p. 421) the fallacy of the idea that feeding back extracted honey for filling sections can be made to pay is clearly shown; while in the matter of planting for honey, that part of the report which appears on p. 411 of our last issue is dead against bee-keepers spending money in cultivating any plant for honey alone. We are entirely in accord with this statement, feeling quite sure that the successful honey-producer must locate his bees where honey *is*, without having to spend money on providing flowers for its production.

DRIVEN BEES FOR BEGINNERS.—From several communications received recently we gather that some beginners have the impression that, in order to make a favourable start in bee-keeping, it is only necessary to buy a few pounds of driven bees in autumn, put them in a hive with frames of foundation, supply twenty pounds of syrup, pack them up for winter, and the work is done — nothing further being needed to begin '94 with every chance of success. Experience, however, teaches that something more is necessary, particularly

when—as so often happens—the bees are not bought till the end of September, or even later. The fact that driven lots of bees occasionally do well under the circumstances named, does nothing beyond demonstrating how the exception—because of its being the exception—proves the rule. And we think that whenever, by the outlay of an extra shilling or two, the condemned bees can be had in the skeps wherein they have worked, it is far better to buy them outright than to give the cottager a small sum for the bees, and leave him the combs and stores. In the former case, the bees—if at all in good condition—are almost certain to winter well, and our beginner will have the gratification of watching them progress towards swarming condition in the early summer of the following year, without having had to undergo the labour of caring for and feeding bees untimely deprived of house and home.

But this last-named labour is not all: the unfortunate bees themselves have to start comb-building and food-storing at an altogether unseasonable time of the year, the harmfulness of this forced work becoming obvious when we consider that the bodily framework of the bee is such that it has but to undergo a certain amount of wear and tear before being worn out. Its age is not determined by the days or weeks since it first crept forth from the cell, but by the amount of work it has done. And so, with the bee, to rest for a time after extra labour, is not to recuperate and start afresh with undiminished vigour, but to begin the spring a middle-aged or half worn-out labourer, instead of being a lusty and vigorous one. Hence it is that young bees hatched in autumn are of such value to the colony in the near future, and to conserve their power now is to give strength to the stock at a most critical period of the coming year before the young bees hatched in 1894 begin to fly. With ready-built combs on hand, it is, of course, much easier to establish stocks from driven bees in autumn; but even with this advantage they frequently have to winter almost entirely on combs full of unsealed food, which state of things is a long way removed from "safe wintering conditions."

We are aware all this is old news to bee-keepers of any experience, but it is necessary to repeat known facts not within the knowledge of those for whom we write, and in view of the disadvantages inseparable from the cases of our correspondents, it is well to warn those who have only now become possessed of their first stocks—made up of driven bees as described—that if failure follows their first attempt at bee-keeping it is because they have not started fair, and if success should attend them in 1894 it will be owing more to luck than to their having made a wise start.

THE DAIRY SHOW AT THE AGRICULTURAL HALL.

Some Suggestions for 1894.

The closing honey show for the year 1893, at least so far as our list of "Shows to Come" informs us, was held in connexion with that of the British Dairy Farmers' Association at the Royal Agricultural Hall, Islington, on Tuesday, the 10th, to Friday, the 13th inst. When the Council of the Association two years ago decided to re-establish a honey department as a distinct feature of their annual show, we ventured to hope that the Agricultural Hall might be made the location of one of the largest and most interesting displays of bee-produce held during the year. The fact of its being the last show of the season afforded, we thought, a most favourable opportunity for bringing together a collection of winning exhibits from all quarters in a friendly test competition which would—so far as judges can decide—prove which district had produced the best honey of the past season.

The result has not fulfilled our anticipations; for, although the number of entries slightly exceeded those of last year, they were not nearly so numerous as the past good honey season led us to expect. In 1891 the entries numbered 125. This year they only reached 76, and in the most attractive class in the department—that for collections of honey in any form—only four exhibits were staged against fourteen in the same class two years ago, and when it is borne in mind how much better has been the season of '93 than that of '91 the difference becomes even more marked. How far the rule of the Association which apportions the number of prizes according to the entries will account for the diminishing of the exhibits it is not for us to say, but it is a serious drop down from fourteen to four in two years. Three prizes are offered in the class with which we are dealing, and in '91 these were all awarded.

In the following year, there being less than nine entries, only two of the three prizes were obtainable; and this year, the entries numbering less than six, only one prize could be claimed. It is therefore worth consideration whether something cannot be done to improve matters in this particular class at least, for in '91 the "collections" formed a very handsome display in themselves, presenting a marked contrast with those of last week, though the individual excellence of the few exhibits staged will be admitted by all who saw them. We would by no means say that the plan of regulating the number of prizes by the entries is not a good one, and, excepting in the particular class to which we are now referring, it would be well—in any scheme of extension—to retain the rule in all others. Now, supposing that six prizes were offered in each of the most popular classes as a maximum — contingent on the entries reaching, say, forty, and diminishing in number as the entries were less? Again, we consider that the class for twelve jars of extracted honey—in which fifty-nine competitors staged more than seven hundred jars at the '91 show—should be divided into three—one for light, a second for dark, and a third for heather honey. In this way, the several distinct varieties of honey would stand on their own merits, and a large entry would surely result. In fact, if the necessary funds were forthcoming, it would be easy enough to get up a really good exhibition of bee-produce, with numerous classes and liberal prizes, such as would be a credit to the craft. Moreover, if a good attendance of bee-keepers could be secured, advantage might be taken of their presence in London to make the usual quarterly *conversazione* of the B. B. K. A., the date of which might be arranged to suit, the occasion of a very enjoyable gathering, besides bringing prominent bee-keepers face to face in pleasant conference.

It may be urged that the cost of a journey to London from the north is an obstacle to many, but even this drawback is minimised by the fact that there are always excursions up to town from certain centres which "fit in" with the Dairy Show, and the many attractions of the metropolis tend to make an occasion for bee-men to foregather in friendly meeting without incurring either great expense or loss of time. There is plenty of time between now and October 1894 to consider the matter well, and if our suggestions be favourably received, we will do what we can to assist in carrying them out. But it should not be forgotten that without some personal effort on the part of those concerned, the holding of a good show in London along with a *reunion* of bee-keepers is an impossibility, and that the best of help in contributing to make it a success is that afforded by what Americans call the "almighty dollar."

The show, to which extended reference has been made above, consisted of the usual classes for (1) extracted honey, (2) sections, (3) granulated honey, and (4) collections of honey in any form, not to exceed one hundredweight. In the first, for twelve one-pound jars extracted honey, the entries numbered thirty-seven, and about 440 jars were staged, containing—as is usual at this show—a very admirable lot of honey. Its quality may be inferred when it is borne in mind how many of the samples shown had already taken prizes before being brought to the final show of the year. The class, as a whole, was so good that it took the judges a very long time to select that which, in their opinion, was best. The class for twelve one-pound sections also contained some admirable exhibits, that of Mr. Woodley being closely run for first honours by the second-prize lot. Many of the commended exhibits, both in this and the preceding class, were well worthy of more substantial honours, had there been prizes to bestow. The competition in the class for granulated honey was not so keen, though a few good samples were staged. We would, however, remind several of the exhibitors that there is a difference between *granulated* honey and that which is granulat*ing*, and that the latter is not eligible for competing in the class for "granulated honey."

The remaining class, for "best exhibit of honey in any form," as has been already stated, brought out only four competitors, three of the four having good collections of both section and extracted honey, the remaining one having less comb honey and a display of much darker honey in jars.

Messrs. W. Broughton Carr and J. M. Hooker were appointed judges, but, owing to the latter gentleman's absence from England, Mr. Jesse Garratt officiated in his stead, the following being the awards:—

Twelve 1-lb. jars extracted honey.—1st prize, W. Woodley; 2nd, E. C. R. White; 3rd, B. G. Brocklehurst; 4th, H. W. Seymour; h.c., W. G. Sale, T. H. Jackson, C. R. Hinckesman, A. Hamer, and J. Palmer; com., O. Roberts, Miss H. Lawrence, C. R. Hinckesman, J. Cragg, and S. T. Nickels.

Twelve 1-lb. sections.—1st, W. Woodley; 2nd, Cathedral Dairy Company, Exeter; 3rd, J. Palmer; 4th, A. Hounsom; h.c., J. Walton

and H. W. Seymour; com., Cathedral Dairy Company and W. Dixon.

Twelve 1-lb. jars granulated honey.—1st, Lieut. H. C. Hawker, R.N.; 2nd, J. Walton; 3rd, E. C. R. White; h.c., J. Palmer and H. Merryweather, jun.; com., H. W. Arbuckle.

Honey in any form, not exceeding 1 cwt.—1st, W. Woodley; 2nd and 3rd, not awarded because of insufficient entries; Messrs. L. Inwood and W. H. Woods being placed 2nd and 3rd in the order of merit.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

EUCALYPTUS (AUSTRALIAN) HONEY.

[1589.] As Mr. John Smith (1574, p. 394) imports my name into his letter on the import of eucalyptus honey into this country, and again in a further communication (1587, p. 406), it may interest some of your readers if I narrate my experience of it, and at the same time let them know I am still alive, and that any joy they may have haply felt at my seeming literary demise was temporarily illusive!

Every time I have had the opportunity of tasting this (let us call it E. honey for shortness) I have noted the flavour as narrowly as I could. The same with E. oil, and my suspicions were aroused that we were not getting the right thing when I met with some Australians who had brought a little oil with them for medicinal use, which they assured me was most expensive, and was distilled from the flowers of the eucalyptus-tree. I found it as different from the ordinary oil as cheese from chalk. The oil and the honey I had previously tested were pervaded by what I suspected, *i.e.*, the essential oil of the leaf, and were both distinctly disagreeable (by association probably). I did not hesitate to condemn the honey roundly, both by pen and word. I said, *inter alia*, it has too strong a twang of the paint-pot or varnish-brush. All association of ideas. I assure you the smell of bergamot takes my mind to Sunday school, and the scented hair-oil of that day had oil of bergamot as one of its ingredients; the smell of a rich, dark rose takes me in imagination to a certain important declaration of affection; mint lozenges are *very* sacred scent symbols, for an old lady in chapel used these odoriferous sweetmeats at stated intervals during the service, and instead of "passing them on," only passed on the odour, until I tried being a bad boy, and it "came off!"—that is, it goes without saying, I earned a character for uneasy impatience that remains with me to this day, and mint was laid on like the gas! Happy thought, I must try the soothing effect of mint once again.

Now, we know the essential oils of orange, lavender, and very many others distilled from the flowers, are so exquisite (both in quality and price) that they are adulterated and brought within common reach by the addition of an oil obtained from the leaves. Thus the active principle of the plant is there all the same, in the nectar of the flower, in the petal, in the leaves, roots, and seeds, but in the latter cases we get acrid and disagreeable "other matters" along with what we want.

I am getting a long way from Mr. Smith, by the way; but as he (at the Antipodes) is a long way from me, he must excuse me. This gentleman, although a stranger to me, is a Leeds man, and went to Queensland, where he is making a business of honey-getting. It happened that he saw one of my adverse criticisms on E. honey, and wrote me to the effect that if I could get a sample of the same, guaranteed gathered from the blossoms of the tree, such as he got (being in the midst of the forest where the bees can get very little else), I should change my opinion. I called on his agent, tasted the honey, and without remark ordered a sixty-pound tin out of next sending. (I may here say, *par parenthèse*, that Mr. Smith admitted that exporters collected messy stuff from fallen trees, and some that was collected from mangrove swamps, and adulterated it with common oil.) Well, it duly came in a square kerosine tin, having a very effective label covering all one side. On examining the contents I reckoned them up as follows:—

Colour, light golden brown. Clearness, equal to our second quality. Consistency, equal to our best.

Flavour—what shall I say? I have tried to make myself expert in matters of taste and smell, but here I was puzzled, and with the help of my (in this case) better half ultimately came to the conclusion the flavour was that of muscatel dessert raisins. They must be muscatel, and they must be dessert—with the bloom on—whether that makes any difference or not. I must take Mr. Smith's word as to the genuineness of the eucalyptus honey, but when I learn that out there (as I have since ascertained) they grow grapes, dry raisins in the sun, and make wine, there is just the suspicion that the bees have been at them. There is no eucalyptus (as we know it) about the honey, yet there is an agreeable medicinal *something* about it that has led us to treasure it for rarest use and enjoyment, passing by even our heather honey. You

see I am one who is troubled with occasional bronchitis. Spiteful people say I have it very often in order that I may make a nice night-cap somewhat after the following prescription:—The juice of, say, half a lemon, the thin outside skin of ditto (peeling off and wasting the white, pulpy, underneath skin), a good teaspoonful of eucalyptus honey, all in a glass, add boiling water *to taste*, drink it at leisure, and go to bed. I should have told you that before drinking it *I* generally add a wineglassful of "something else," the open secret of which I shall keep!—R. A. H. GRIMSHAW.

DOUBLE-QUEENED HIVES AND ITALIAN BEE-KEEPERS.

[1590.] A correspondent sends us the following extract, translated from the *Imkerschule*, September, 1893, by A. von Rauschenfels, Italy:—

"On the 14th July died at Empoli, in Tuscany, the bee-keeper named Raffaello Dringoli. If the man had not died, nobody would have remembered that in the *Apicoltore* twenty years ago there was an article by him, with illustrations of a beehive for working with two queens. A short description of what appeared in the December number of 1873 is not without interest now, when the 'Wells' system is attracting so much attention. The double hive has the form of a three-story hive, to be opened on both sides. The excluder runs in rabbets, perpendicularly, in the lower hive, which it divides. The hive has two entrances for flight-holes, each in the widest side, of which one is for entrance to the brood nest, and the other for the honey store.

"An additional box for a few frames, and to be opened from the front, in the middle of the front wide side, is attached to the honey store, and is in connexion with the same by communication with the flight-hole. It is for the purpose of receiving one of the queens at the beginning of the honey season, and to keep her there any length of time without estranging her from the bees; or, if it is not intended to restore her to her stock, as being too old to be wintered again, a young queen may be reared in the additional box referred to. The communication of the honey store and the additional box is separated by excluder, allowing only workers to pass, and this queen can therefore only lay in a restricted part. A description in detail is unnecessary.

"This hive for two queens received this name because it was intended not to swarm, and because two mothers live and breed in it at the same time. Its purpose is to have a very numerous family ready at the beginning of the honey season, double than in a single hive, and to harvest at least as much honey as in two single hives.

"A giant colony may be raised in a single large hive with one queen, but the colony is not able to fill the large capacity, as there is one mother laying only.

"The hive permits the regulation of breeding, so that, during the honey season, the double colony requires for the brood only as much honey as a single hive. This is a saving to the bee-keeper's profit.

"Thirdly, it should prevent the hive losing too many workers, as happens when the queen is either caged or (as is usual) removed from the hive altogether, which used to be the 'golden rule' formerly.

"It will be noticed that the working in this double hive is more rational than in the 'Wells' system. In the latter a giant colony is reared as well, but naturally feeds enormously, as the two queens are laying the whole season uninterruptedly, and this is prevented or reduced intentionally by Dringoli, by which means he benefits without weakening the colony too much, and prevents swarming at the same time.

"An authenticated account accompanies the description from October, 1872, to October, 1873, which states that Dringoli harvested from his best hives twenty-nine, and from his double hives ninety-seven, kilogrammes of honey.

"The reader will ask, How is it possible that this hive received so little notice that it could disappear without leaving a shadow behind? Simply in this wise. The man was too much ahead of the times. The knowledge and understanding of a complicated, if a more profitable, way of treatment of bees was wanting. Bee-keeping was, twenty-years ago, still in its infancy in Italy, and the difficult and intricate description of the discoverer did not improve or assist to bring the hive into general use.

"The Italians are not fond of studying printed matter, and as M. Dringoli never made the slightest attempt to push his hive, it will be easily understood how his double hive has been forgotten."

[We are pleased to have the above to show what has been done in other countries, but we would remind our correspondent that this is not the "Wells" system, but simply the system used by ourselves and others about the same time that M. Dringoli introduced his hive. We have seen what has been said from time to time in the *Apicoltore*, and it is evident that M. de Rauschenfels has not grasped the matter. —EDS.]

A NOVICE'S BALANCE-SHEET FOR 1893.

[1591.] Being a novice at the extremely interesting art of bee-keeping, it has occurred to me that a brief account of my first year's venture may have a certain amount of interest to others who, like myself, are making a start in that direction, the more so as I do not very often see in the pages of your valuable periodical any contribution from this immediate neighbourhood. The season here has been a very productive one as regards that commodity in which we as bee-keepers are more especially interested, as

will appear from my experience of this year. I was induced to join the fraternity by a friend, a first-class expert of the B.B.K.A., who was lecturing in this neighbourhood on behalf of the Cambridgeshire County Council, and my chief text-books have been the *British Bee-keeper's Guide*, together with current and back numbers of the *B.B.J.* I began last autumn with a driven stock in a bar-frame hive, which I fed up for winter, and an old stock in a skep. These stocks both wintered well, though I was unable to get them strong enough to take any great advantage of the honey-flow from fruit-blossom; indeed, as June came in they did not seem to be going to prove very profitable. Early in the year I also bought two stocks in skeps, and was fortunate enough to get two swarms, which I hived in frame hives. All this was new experience for me, and I succeeded beyond my expectations.

In July I tried my hand at driving, though I had seen only one hive driven before, and drove three stocks of condemned bees, which I united and put into another frame hive. In the latter part of the season they all stored honey at a tremendous rate, giving me a nice lot of well-built sections, which sold at a good price, besides supers of "Ivo" bars in two frame hives, and glass and straw supers on skeps. Last week I drove another three hives of condemned bees, and placed them in a frame hive with six frames of sealed honey from the other hives, from which they could well be spared, as I have taken no honey at all from brood chambers.

Of stings I, of course, have had a few, but I take care to keep my face protected, and I find that when stung on the hands I am not affected nearly so much as at first. The result of my first year's work is that I expended 5*l.* 9*s.*, which the bees have repaid, besides giving me a profit of 1*l.* 2*s.* 9*d.*, leaving me with eight strong stocks having plenty of winter stores. This I think a most gratifying result, besides the pleasure attending the interesting pursuit, and I hope my experience may influence others who are inclined to embark in such a pleasant pastime.—W. R. B., *Elsworth, Cambs., October* 11*th.*

SPRAYING FRUIT-TREES WITH "PARIS GREEN" AND "LONDON PURPLE."

[1592.] Mr. Woodley, on p. 405 of *Bee Journal*, October 12th, asks if spraying fruit-trees, as recommended by the Board of Agriculture, with arsenical poisons is injurious to bees. I have now used both the above compounds for five years, and have not up to the present found them at all hurtful to bees. I have ten lots of bees in bar-framed hives, standing in a garden of three acres, where fruits of all sorts are grown, and I find it absolutely necessary to spray the trees.

The spraying is done to destroy caterpillar, and the first spraying takes place as early in the spring as the buds of the fruit-trees begin to expand, so there is no arsenic sets on either of the organs inside the blossom. They are again sprayed just after the fruit has set, and I have found the "London Purple" the very best and safest compound to use, and it is applied by a machine called a "sprayer," which puts the mixture on in a very fine dew, making, if one chooses, one gallon do an acre of fruit-trees.

Now, as regards arsenic as a poison for bees, I don't think bees would take any compound containing arsenic, as I am certain wasps will not, having tried it in nearly every way and form, and when arsenic was added to any mixture the wasps refused to touch it. During the past season I have used here in my garden half a pound of "London Purple" for all my trees, and some of them have been done three times; and when we take into consideration there is only ten per cent. of arsenic in these poisonous compounds, and that half a pound does a great part of three acres twice and three times during the season, I know for certain that our bees will die of old age before they will have been able to collect sufficient arsenic of copper to poison themselves. At least, such is my experience after seven years' bee-keeping here. At a later date I may tell Mr. Woodley and your readers, with the editors' permission, the benefits I have found done to fruit-trees in the way of fertilisation of their blossoms by bees, thus enabling them to bear better crops.—E. Wallis, *The Gardens, Hamels Park, Buntingford, Herts.*

BEES IN THE MIDLANDS.

A Big Average for 1893.

[1593.] Having read of the many good "takes" of honey in the North, although rather disappointing to hear of the failure through the drought in the South, I thought probably a short report from the Midlands might also be interesting, so far as the honey yield in this part is concerned. I commenced the season 1893 with four hives, spring count, and have worked one on the Wells system, and three singles. My take of honey is as follows:—

No. of Hive.	Extracted.	Sections.	Total.
1 ("Wells")	90 lbs.	20	110
2 (Single)	8 „	133	141
3 „	10 „	119	129
4 „	62 „	31	93
4 hives.	170	303	473

This shows an average of over 118 pounds per hive, each hive being provided with plenty of winter stores, and requiring no feeding. I have also increased my stock to seven by artificial swarms, having no natural ones of my own, and very few in the neighbourhood. Well, Messrs. Editors, I think this very good for an amateur.

On October 7th myself and a friend overhauled all my stocks, and although the queens were found in all the hives, there was no brood except in one, and that only a very small patch, but plenty of bees. This is the general rule in

this district, so far as I can hear. You will notice my Wells hive has not done so well as the others; the reason I consider to be by having to transfer two stocks into it in April, the bees thus having to establish themselves, also to draw out all surplus combs, as I had none ready built to give them. I hope to test it next season with a better start.

With respect to the dummy between the two stocks, I have not read of one success in all respects except Mr. Wells' own. We are also told only a true "Wells" dummy will answer, and that dummies of perforated zinc are of no use. Well, seeing the number of failures, I consulted our expert, who assured me he had used dummies made of wood and perforated zinc with success for many years, and that they would answer for a "Wells." So I had one made, putting it in in May, and on October 7th both the expert referred to and myself examined the "Wells" hive and dummy, and not a hole was propolised up, and I think even now that this division-board will answer.—WM. TUSTAIN, *Northants, October 10th.*

[Our correspondent will find that the "Wells dummy" has been a success in the hands of several who have tried it; the most recent case reported being that on p. 420 of this issue, and another on p. 136 of our monthly, the *Record* of October.—EDS.]

A SOUTH DORSET BEE-MAN'S SUCCESS.

[1594.] *Tempus fugit* is a general cry, yet especially with those who have been blessed this glorious summer with abundance of honey, and those who delight in their bees. *Tempus fugit* surely must then have been a regular Scotch cry this year according to reports, for we in Dorset hear of no complaints, but all good honey harvests from the north.

Now, wait to hear what a South Dorset bee-man can tell you. I started with seven hives, spring count, and have increased them to twenty, and placed 6*l.* 10*s.* in my pocket for next year. Considering the severe drought we have passed through, am I not right in saying the bees have done well, and may they do so next year!—SOUTH DORSET BEE-MAN.

USE OF THE QUEEN-BEE'S STING.

[1595.] Enclosed you will find an extract taken from a report of a lecture given by a second-class expert. From what I have read I consider the part underlined to be incorrect. Having had an argument with several other bee-keepers, I should be very pleased if you could find a corner to publish this cutting together with your opinion in *B. B. J.*—SUBSCRIBER, *September 29th*, 1893.

"One of the most interesting parts of the lecture was his explanation of the formation and uses of the stings, which he contended were never meant for the purpose of stinging. *The queen-bee's sting was simply an ovipositor, with which she bored a little hole in the bottom of the cell of the comb, and laid an egg in the hole thus made, and with the poison of the sting she cemented it.* The heat of the hive hatched the egg in three days into a grub till the ninth day, when it changed into the chrysalis form, and it emerged a perfect bee—a queen in from thirteen to seventeen days, worker twenty-one days, and drone twenty-four days. Any drones found in a hive at this time of the year showed that it was queenless. The sting of the worker-bee was used when, just before the last bit of sealing was put on the honey, it inserted the sting and left a tiny drop of poison in it. Without this poison, or formic acid, the honey would not keep many weeks, but, with it, it would practically keep for ever. *The queen-bee had a sting, but could not be made to sting any person.*"

[A portion of the statement is correct, while some of it is not. By referring to Cowan's *Honey Bee* you will see that Dewitz and Vogel both consider that the sting of the queen-bee is used as an ovipositor; but there is no foundation for saying that the queen bored a hole with it in the bottom of the cell, and with the poison cemented the egg into this hole. As a matter of fact, a hole is not bored, and the egg is fixed by a glutinous secretion, as the poison sac of the queen does not contain poison like that of the workers. It is also not a fact that the queen-bee could not be made to sting any person; we have ourselves been stung, and the fact is also mentioned in the *Honey Bee*, page 81.—EDS.]

PROPOLISING "WELLS" DUMMY-BOARDS.

[1596.] Noticing in *Bee Journal* many inquiries respecting propolising of "Wells" dummy-boards, I may say my experience has shown that propolising is not fatal to success. In February last I made a "Wells" hive from description I saw in *Bee Journal*, and stocked it. Upon examining hive seven or eight days afterwards, I found the dummy completely stopped up—every hole propolised—and removed it, inserting solid dummy. This dummy-board I sent to Mr. Wells, asking his advice respecting same. Before receiving reply from that gentleman, I saw in *Bee Journal* your description of making one, and made another. This was quite satisfactory to all appearance, and I did not again examine hive until the honey-flow, when, upon supering the hive, I found this was quite as bad as the former one. Notwithstanding this, the bees were quite as united as one stock, and worked satisfactorily in super. I removed super second week in August, covering up frames on each side. The same dummy is in the hive now, completely stopped up, and there has never been any sign of fighting. Upon lifting the

quilts, October 7th, the bees passed freely over dummy from one side to the other. With regard to results, the average was not quite so much as two single hives, reckoning "Wells" hive as two stocks. But it did not start upon equal conditions with the other hives, the stock I put in "Wells" hive being a very late swarm and cast united, and two casts united—this last lot being so weak that I did not expect them to survive the winter; but they made by far the stronger lot, and were ready for supers before the other lot. I may say the two casts did not cover three frames; the other lot nearly five frames.—Q. PENZER, *Kingswynford, October 9th.*

BEE-KEEPING IN CO. WEXFORD.

MY EXPERIENCE OF "WELLS" HIVES.

[1597.] In accordance with my general custom, I send you a report of my year's bee-keeping as under:—

I commenced the year with nineteen stocks, increasing them to twenty-six by swarming and driven bees. My stock of honey was very bad, only about 380 finished sections (and 200 unfinished ones which I fed back to driven stocks), or about twenty sections per hive, and yet I think my bees were stronger in May than they usually are.

Like most bee-keepers, I gave a trial to the "Wells" system. I made three hives; two I stocked early in April, and the other from swarms about the middle of June. I look upon each "Wells" hive as two stocks, and even on that calculation each "Wells" hive turned out more honey than any three of my single-queened hives. I did not find any difficulty in taking off or putting on sections (I work for section honey only) more than in single hives; and the perforated division-board is as free from propolis now as the day I bored it; but I may mention the division-boards I made out of mahogany—whether that had anything to do with it or not I cannot say, and though I work only sections, I would not like to do without excluder zinc. For about three years I had twenty-five per cent. of the sections spoiled by the queen laying in them, and, of course, their appearance quite spoiled; yet, as I read that our more advanced bee-men can manage to do without excluder zinc, I would like to know how it is done. I would like to have Mr. Woodley's views in "Notes by the Way" on that subject.—J. D., *Wexford, October 9th.*

HONEY SHOW IN CO. KILKENNY.

[1598.] The Iverk Farming Society held their annual show in the Court House at Piltown on the 10th inst., and it may not be out of place to give an account of the honey class in connexion therewith.

Three prizes were offered for the best six one-pound sections, but the competition was not a large one. In all forty-two sections were staged, and some screw-cap bottles of extracted honey, not for competition. The sections were all so good that the judges had some difficulty in awarding the prizes to the most deserving, but finally awarded M. Kerr, first; Wm. Clarke, second; and J. Barry, third prize. Mr. Edward Ponsonby and Mr. Bowers acted as judges.

The honey class was much admired by all parties visiting the show during the day, and it is hoped that it will stimulate others to go in for the bar-frame hive, and abandon the old skep which is so largely used in this part of the country.—H. K., *Co. Kilkenny.*

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

Amount already acknowledged	£46	16	6
A few Members of the Lincolnshire B.K.A. ...	0	14	6
R. Moon	0	10	0
L. Inwood	0	2	6
W. H. Woods	0	2	6
R. French	0	2	6

The list will be closed at the end of this month.

Queries and Replies.

[904.] *Profitable Working of a Northern Apiary.*—As a reader of your *Journal*, I venture to ask your opinion as to the most profitable mode of working an apiary for honey under the following circumstances:—1. I live in a country district in the north of Scotland, at an altitude of 720 feet above sea level. I have a garden three-quarters of an acre in extent, sheltered by a stone wall and coniferous trees on all sides. All around is arable land, the grass-fields of which give a very fair yield of clover honey; while about half a mile distant are the policies of a mansion having a limited number of lime-trees, which are largely patronised by the honey-gatherers. In addition, there is, three-quarters of a mile distant and at a slightly higher altitude, an unbroken stretch of about 1000 acres of moorland, from which a rich harvest of heather honey is annually reaped. I intend increasing my small apiary to about fifty stocks, and would like to know—2. Whether the process of extracting the clover honey from one-pound sections and replacing them to be filled with heather for selling in the comb is likely to be more profitable than working entirely for comb honey? I have thought of shallow frames, but with these, I fear, honey would be difficult to dispose of in the comb. 3. Would my apiary, situated in my

garden, be near enough to the moor, or ought some of the hives to be shifted on to it? 4. Which is, in your opinion, the most suitable hive to adopt, keeping in view that the thermometer in winter sometimes registers 28° of frost?—KING B.

REPLY.—1. The question of the most profitable way of working an apiary is largely one of supply and demand. Some bee-keepers find it suits them best to work almost entirely for comb honey, others for extracted, and some go in for both kinds. A year or two's experience will be the best guide in deciding, and meantime you should try both. The location seems in every way favourable, and with such good foraging-ground bees should do well. 2. The plan of extracting a portion of clover honey from sections for refilling at the heather has been found to work well, and the mixture of clover with heather honey forms a delicious blend. 3. This is a question which only experience will safely decide. No doubt more honey would be gathered by stocks on the spot, but whether the increase would pay for cost of transit we can only guess, and our guess is that it would not, except in very favourable seasons. 4. With such a low temperature to face in winter, our own preference would be for a double-cased hive, built of very light timber, with a space between hive and outer case, which could be packed in winter with some loose material, such as old newspapers, dried ferns, or such-like.

EXPERIMENTS IN APICULTURE IN 1892.

(*Concluded from page* 412.)

FEEDING BACK HONEY.

Feeding back extracted honey to secure the completion of unfinished sections at the close of the harvest is practised by some apiarists, but with varying financial success. Extracted honey can be transported long distances with much greater safety than can comb honey. For this reason it has been thought it might be profitable to feed bees extracted honey costing seven or eight cents per pound to produce comb honey selling at thirteen to fifteen cents, locating the apiary designed for this purpose near a large city or other favourable market. With the idea of adding light upon this subject, extracted honey was fed to a number of colonies under the following conditions:—

The hives were contracted, and the queens kept in the brood apartment by means of excluding zinc. Five colonies were given two crates each of unfinished sections, the sections of the whole weighing 113 pounds. Three hundred and thirty-eight pounds of honey were fed these five colonies during twelve days. The honey was thinned with twelve per cent. of water, and warmed before feeding. The amount of finished honey obtained was 367 pounds, or a gain of 254 pounds by feeding 339 pounds of honey. The hives were weighed both before and after the honey was fed, and a gain of thirty-six pounds during the feeding recorded for the five hives. The following gives the results from a financial view:—

254 pounds comb honey by feeding at 14 cents	$35 56
36 pounds stored in hives at 8 cents	2 88
	38 44
Minus value of 338 pounds fed at 8 cents...	27 04
Profit as pay for labour, &c.	$11 40

Two colonies were given crates of sections with full sheets of foundation, and were fed extracted honey under the same conditions as the five colonies above:—

	Pounds.
Amount of honey fed each colony	66½
Colony No. 1, finished comb honey	41½
Colony No. 1, gain in weight of hive	9
Colony No. 2, finished comb honey	38
Colony No. 2, gain in weight of hive	7½

Taking these two colonies as a basis, the following financial statement is made:—

79½ pounds comb honey, at 14 cents	$11 13
16½ pounds honey stored in hives, at 8 cents	1 32
	12 45
Minus value of 133 pounds honey fed, at 8 cents.	10 64
	$1 81

Deducting from this profit the value of the sections and foundation used, the actual profit, as pay for labour, &c., is, at most, nominal.

When this whole experiment was begun, and during the time it was in progress, no honey was gathered from the fields, but before the sealing was all accomplished, the fall honey-flow began, and for this reason the experiment was ended, and the honey removed sooner than would otherwise have been advisable.

The results obtained in this work, or in any experimental work of a similar character, might vary under more favourable or unfavourable conditions of environment, and a continuation in various seasons and under other conditions would alone give really reliable results. The above trials are, however, very encouraging, and longer and varied work in this line is desirable. —J. H. LARRABEE.

ANOTHER NOVEL NON-SWARMING IDEA.

Adrian Getaz contributes the following very interesting article to the *American Bee Journal*:

"Last spring I decided to make thirty self-hivers, and experiment with them. In principle they were similar to the Pratt hivers of 1892; that is, a box placed before the hive, and connected with the hive entrance by a queen-excluder zinc, with a cone permitting the queen to come into the hives, but not to go back. In

fact, they were merely queen-traps transformed into hives. Another zinc in the front prevents the queen from going out of the hives.

"The first experience was a mishap. My apiaries are both out of town, and other business requires most of my time. So one of the apiaries was a week and a half without attention. When I got there the people living on the place told me that one colony had swarmed every day for several days, and finally the swarm went off. Investigation showed five dead queens in the hives. The theory is, that the old queen was killed by the first virgin hatched, this in turn by the next, and so on. Probably the last one was reared from an old larva, and, as usual in such cases, under-sized, and went through the zinc with the swarm.

"Well, the other swarm came, and was found in the hive—or, at least, the queens were, with more or less bees. The thing to do is to move the old hive to a new stand, and leave the supers, about one-third of the brood, and the swarm, in a new hive on the old stand. Thus used, the self-hiver (except perhaps some particularity of construction) is certainly a success.

"As a non-swarmer it is a failure. The Dadants say that if a swarm is returned to the parent hive two days after swarming, the swarming fever being over, the queen will be permitted to destroy the cells, and the colony will not swarm, at least, not until new preparations for swarming take place, if the circumstances are favourable to it. Henry Alley says that after a queen has been three days in the trap, she will be permitted to destroy the cells. Acting on these suggestions, I waited two or three days, and then returned the swarms from the hives to the old hives. I soon discovered that the majority were swarming again repeatedly, even twice a day. Investigation disclosed the fact that only one queen had destroyed all the cells, the others had only destroyed a part. This was not entirely unexpected. It is obvious that the swarms returned to the hive and left in the hiver are not in the same condition as those coming out with their queens, hived in a new hive, and then returned.

"As to Henry Alley's assertion, I have to say that so many conditions influence the swarming of bees that he may have succeeded under some circumstances, while he might have failed entirely at some other times.

"Well, I then proceeded to destroy the queen-cells myself. Only three colonies quit swarming as long as they had either a queen or some brood from which to rear one. I persisted in returning swarms and cutting cells, and the bees persisted in swarming again and again. Finally, four or five queens 'turned up missing,' probably were killed. Then I acknowledged myself 'licked,' as Mr. Hasty would put it. I divided some colonies, and removed the queens from some others.

"Here I have gained an important point. None of the colonies that had been *hopelessly queenless* for some time (from three or four days to nearly two weeks) offered to swarm again. It seems that when they find themselves without queens or brood (except capped brood), they give up all swarming notions, and go to work. After new queens were given, they still kept on working regularly.

"One or two points in regard to the construction of the swarmer: Excepting the one mentioned at the beginning of this article, no queen, so far as I know, has passed through the zinc. The cone ought to be placed so that the bees are not likely to cluster on the end of it, for when there is a cluster they cannot go in and out easily through the cluster."

(To be concluded next week.)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

F. W. K. (Horsham).—*Cane Sugar.*—Every variety of sugar—lump, white, refined crystals, &c.—is made from the sugar-cane as well as from beet. We cannot understand any grocer saying he knows of no cane sugar but the "coarse, brown, and unrefined Barbadoes." This will be a raw sugar, and, as such, quite unfit for making syrup for autumn feeding. Pure cane sugar can be had through this office, as per advertisement on another page.

Saxon.—*Re-queening.*—It is not too late for re-queening. Referring to your transaction with the queen-breeder mentioned, we cannot think you right in supposing that he is waiting to get young queens fertilised before sending. There must be some other reason. There has, no doubt, been a large demand for queens this year, because of the scarcity of swarms, otherwise there would be no excuse for the delay complained of. We should advise asking for either the queen ordered or return of cash, so that you might apply elsewhere.

W. Allen ("Phil. Jones").—Your favours are to hand, and will appear next week.

G. H. Young (Notts).—*Location for Bees.*—Much will depend on the quantity of white clover growing within one to two miles of the place the bees are located. Heather is always helpful to the honey-crop, but we do not think it produces very much about Bournemouth. It always comes in after clover has done yielding.

J. Martin (Bristol).—Many thanks for sample of honey safe to hand, and for promised report of honey season.

Helmsley.—*Foul Brood.*—There certainly is a trace of foul brood in comb sent, but the cells were so crushed up as to make it difficult to find. It does not appear a bad case so far as can be judged by sample sent.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee Meeting held at 105 Jermyn Street on Wednesday, October 18th. Present: Captain Campbell, Major Fair, W. B. Carr, Jesse Garratt, J. H. New, and E. D. Till; Rev. W. E. Burkitt, J. M. Hooker, and F. H. Meggy (*ex-officio*), John Huckle, Secretary.

In the absence of the Chairman and Vice-chairman, Mr. Garratt was voted to the chair.

Communications were received from Dr. Bartrum (who had previously attended a sub-committee meeting), the Chairman, Vice-Chairman, W. O'B. Glennie (Treasurer), Rev. R. Errington, and W. H. Harris, regretting their inability to be present.

Mr. Carr reported that the Educational Sub-Committee had considered—

(1) The letter proposed to be sent to the various Horticultural and Agricultural Colleges; resolved, that the letter as amended be approved, and that in the meantime statistics to accompany the letter be obtained. The Committee were generally of opinion that it would be advisable to communicate with the Secretary of the Royal Agricultural Society before taking any definite steps in the matter.

(2) The recommendation of the Northern Counties' Sub-Committee in respect to the holding of Examinations at County Exhibitions: they recommended that such examinations be held on the day previous, or the day following the exhibitions, or at such centres as circumstances will allow.

(3) The Sub-Committee also recommended that the suggestion made by Dr. Bartrum, in regard to first and second-class candidates being required to show a more extended knowledge of the physiology of the bee, be adopted.

Resolved, that the report of the Educational Committee be confirmed.

The Exhibitions Sub-Committee reported that they had considered the recommendations of the Northern Counties' Sub-Committee in reference to the appointment of assistant judges at the exhibitions of the B.B.K.A. and the affiliated Associations, but they had not been able to make any recommendation on the subject. After discussion it was moved by Mr. Meggy, seconded by Mr. Till, and carried unanimously, "That the Committee having exhaustively discussed the recommendation of the Northern Committee relating to the desirability of obtaining a succession of competent judges, will be glad to promote that object as far as practicable under the varying circumstances of different shows. They therefore resolve that it be a recommendation to any judge appointed by the B.B.K.A. to allow the presence of one experienced bee-keeper, approved by the local committee, to accompany him during the judging of the exhibits. It is, however, distinctly understood that compliance must be entirely at the discretion of the judge."

The prize list for the bee department of the Royal Agricultural Show at Cambridge in 1894 was finally approved.

The Finance Committee reported that the sum of 16*l.* 16*s.* 7*d.* had been received during the month, and that accounts had been paid amounting to 16*l.* 13*s.*

This concluded the business of the Committee Meeting.

CONVERSAZIONE.

The autumn *conversazione* took place at 6 p.m., under the chairmanship of Mr. Hooker, who was supported by Miss Eyton, Mr. Garratt, Captain Campbell, Major Fair, Mr. Till, the Rev. W. E. Burkitt, Mr. Blow, Mr. Carr, Mr. Meggy, Mr. Jonas, Mr. A. D. Woodley, and other gentlemen.

The Chairman opened the proceedings by briefly introducing Mr. A. D. Woodley, secretary of the Berkshire Bee-keepers' Association, who read a paper entitled—

BEE-KEEPERS' ASSOCIATIONS AND HONEY SALES.

Mr. Woodley prefaced his paper by some observations on the letter of the Baroness Burdett-Coutts, president of the B.B.K.A., which appeared in the leading papers some time ago, the text of which is given in our issue of June 8th last, after which he proceeded as follows:—

"It has occurred to me that it might be of some use to the British and County Associations if I laid before them the substance of what the Berkshire Bee-keepers' Association has been doing in this matter, and I hope to show you that we have, to a large extent, solved this very difficult question—constituting, as it does, a difficulty with which, no doubt, all Associations have to deal, and forming a serious stumbling-

block to their success; and, probably, one important reason for some Associations dying out altogether.

"The Berks Association have been struggling with this question for many years, and with varied success; honey dépôts were tried and found wanting; honey companies have appeared on the scene, and almost as quickly vanished, leaving some of us lighter in pocket as a result—and the problem still unsolved. If asked my opinion as to the cause of the failure of undertakings of this kind, I should say that it was bad and expensive management. They should be managed by some one possessed of good business qualities and a large trade connexion. Under such circumstances, I see no reason why they should not have been successful, but this is beside the question, and as I said before, the difficulty has to be met. No doubt other County Associations' Hon. Secretaries are constantly met with the reply given when advocating the claims of their respective Associations, viz., 'If you will sell my honey, I will join your Association with pleasure.'

"I don't think I can do better than read some remarks of my own written about this time, which will explain our line of action. This was written in June, 1888, so that we are now in a position to form an opinion as to the success of the same:—

"'Some years ago, when the Association was in its infancy, there was no difficulty in disposing of our honey, often at such fancy prices as 2*s.* 6*d.* per lb., and certainly at not less than 1*s.* 6*d.* Honey was at that time the luxury of the few, and that a somewhat expensive one; but, as time went on, and humane bee-keeping advanced, as it was bound to do with Associations at work offering such tempting inducements for bee-keepers, and more and more was placed on the market, it naturally followed that prices fell, so much so, indeed, of late years, that we hear the cry now and again that modern bee-keeping does not pay.

"'Unquestionably it is a fact that bee-keepers' profits are considerably curtailed to what they were a few years ago, but I am very far from endorsing the opinion that bees cannot be kept at a profit; indeed, I would go so far as to say that it is still the most profitable industry the cottager can engage in, providing that a fair amount of care and attention is given at the proper time (not necessarily always meddling and fussing with them), and that he leaves to others the experimenting with the many new fads and theories, and is content to conduct his apiary, be it large or small, on commercial principles, with the maximum of efficiency at the minimum of expense. On such a basis I am certain, from a somewhat extensive experience, that a good return will be obtained for time and money expended.

"'But I would ask whether we, as bee-keepers, have not ourselves largely contributed to bring prices down below what they might have been.

"'A fall in prices is usually brought about by a superabundant supply; and, on the other hand, a short supply produces a rise in prices, but I would venture to suggest that this is not so much the case with honey as with most other produce. If it were so we might admit at once that we are raising more honey than at the present time there is a demand for, but I do not think that such is the case. I firmly believe that the chief and primary cause is that during, and at the end of the honey harvest, what market there is is glutted, and for a short time the supply far exceeds the demand, and herein lies one of the chief causes of falling prices. I frequently hear from tradespeople, about August or September, that they can buy sections at almost any price, and I know of many instances where the cottager, living in the country, takes his stock of honey into the neighboring town, expecting to find ready purchasers, but is disappointed to ascertain that the shopkeepers are all fully supplied, and rather than take it back, he sells it to any one who will make any offer whatever for it. As a consequence, the bee-keeper returns home much lighter in pocket than he might or should have done, and the shop-keeper is able to sell at low prices; but when, perhaps a month or two later, he wants more to fill up stock, he finds that there is none to be had, and gives up the business in disgust. This is entirely wrong, and ought to be remedied. Honey, unlike fruit and other perishable articles, can, with ordinary care and attention, be kept, either in comb or bottled, from one season to another, and there is no reason whatever why the market should be glutted at one time and empty at another. On the other hand, there should be a steady and regular supply throughout the year. It remains to be seen how far this can be remedied, and I want to ask if, as an Association, we cannot take some practical steps to do so, first, by creating and developing the more extensive use of honey, not only as a luxury or as medicine, but also as an article of food; and, secondly, by regulating the supply to keep prices up to a profitable range.

"'It may be that some may say that this is no part of the work of an Association; that our work is to teach and encourage the cottager to keep bees in a humane and rational manner, and in so doing help him to help himself. As far as it goes this is very good, but I would point out that it often happens that the honey-producer lives in isolated and obscure hamlets, and has little opportunity, after supplying his neighbour's wants, of disposing of the remainder, and I maintain that it is very desirable that an Association, after having largely developed a new industry, should bring it to a successful issue by creating a market for the produce.

"'In formulating any scheme, there are many dangers and difficulties to encounter, but the aim must be to provide a regular supply, placed before the public in the most attractive manner, and at a price which will make it an article of food, and also profitable to the producer. Some may say this is impossible, but I believe it can

be done. In the first place I would suggest that in every town and village in the country, and, if possible, also in London, one or more agents be appointed by the Association to sell the honey of its members, these agents to be selected from among the most respectable grocers, greengrocers, or dairymen that can be got, who will undertake to keep a stock (not necessarily a large one) of the honey belonging to the members of this Association on *show* and *sale*, and to place it prominently before the public in the best possible manner. For instance, I suppose most grocers keep honey of some kind or another on sale, but I fear more often than not it is foreign, and of doubtful quality and purity. Now, I can see no reason why they should not be induced to keep British honey, providing it be offered to them at a reasonable price, and put up in as attractive form as the foreign. Indeed, I believe there would soon be a great preference for it, especially if it were sent out under the guarantee of our Association. Assuming that some such arrangement is come to, and that we have secured our agents all over the county, the question arises, How are they to be supplied? To meet this I would suggest that, instead of having a central dépôt, and all its attendant expense, the Secretary, or some one appointed by the Association, shall keep a register, in which to enter particulars of all honey for sale in the hands of members, and that the names of such members, and also of the agents, shall be published from time to time. Having by this means brought the buyer and seller together, it would be necessary that great care should be taken that the article offered to the agent, and through him to the public, should be put up in the best possible manner, and worthy of receiving the sanction and guarantee of the Association. To do this, it would be very desirable that we should adopt some form of package and label, both for comb and extracted honey, without which our agents should be requested not to purchase. We should thereby ensure the necessary uniformity of package by which our members' goods would be always recognised. In addition to this I would suggest that each agent, on appointment, should have a neat and attractive certificate which he could display. Not only uniformity of package would be very desirable, but uniformity of quality would be almost of greater importance, for it would be manifestly unfair to ask our agent to purchase, and pay the same price, for an article of indifferent quality. I think it would be a good plan to take some steps to ensure that none but good commercial honey is offered, by compelling members to furnish samples to some appointed person previous to being supplied with the Association label. I am well aware that there are many difficulties in securing such an end, but I do not believe they are insurmountable. In addition to this, it would be well if we distributed handbills or pamphlets, similar to Professor Newman's, and attractive bills, advocating the use of pure British honey. Indeed, every effort should be made to push and advertise its use both in the interest of ourselves and also of our agents.

"'With regard to prices, it is almost impossible to regulate these, and I would suggest that the Association should interfere as little as possible between buyer and seller, leaving the supply and demand to regulate them, as they must do in the long run. This scheme is not, of course, intended to prevent members selling their honey to private individuals, providing they do not undersell their agents, for the very obvious reason that they would be only doing themselves harm in the long run, for, if I sell to my grocer honey at a price to which he has to add a reasonable profit, and then go and sell at the same price to one of his customers, I am doing myself and the grocer an injury. It should be a rule never to sell below agents' prices without some special reason for doing so.

"'What we have to do as an Association is summed up in a few words, viz., Create and encourage the use of, and ensure and regulate the supply of, pure British honey. If we can do so, we shall settle the much-vexed question of honey sales, and give a great impetus to the bee-keeping industry in our midst.'

"That, ladies and gentlemen, is the basis on which we floated our scheme, and I may safely say that it has been an unqualified success; and I think that, so far as the Berks Bee-keepers' Association is concerned, that difficulty has been surmounted, and it is our members' own fault if they have honey on hand from one season to another. We, of course, have friends who are a little impatient at times, and want to see a customer for their honey almost before they have removed it from the hives, but they are getting to understand that with the exercise of a little patience they will find a buyer.

"We have secured most of the leading grocers, dairymen, &c., in all the principal towns, and have no difficulty in finding others as required; in fact, there are applications from some at the present time. We have brought out an Association Label, specimens of which are here for inspection; also the packages we recommend our members to put their honey in. You will observe that the labels are numbered consecutively, and herein lies an important feature of our scheme. The label, of course, is copyright, and can only be obtained from the Association. The member or agent purchasing them has to give a written guarantee that he will use them on none but pure Berkshire honey. The numbers are booked to the purchaser, and in the event of any complaint or reference with regard to any honey under our label, we can at once a certain by whom it was put up. I am happy to say that during the four or five years our scheme has been in operation we have had no single complaint from any quarter. On the other hand, frequent repeat orders come in from persons who have purchased our honey, and we have by this means been enabled to bring purchaser and consumer together.

"Each year, previous to the honey-flow, we

send to our agents a circular asking them, in the event of any difficulty in obtaining a supply of honey from our members, to communicate with us, in order that we may put them into communication with some one who can supply their wants.

"We are, of course, unable to give more than a rough idea as to the amount of honey disposed of by our members in this way, as by far the larger quantity is sold without any reference to us at all. I can say that last season we were unable to fill all our orders, as stocks had run out, and I believe that fair prices were realised.

"I have heard of sections being sold at 6*s.* 6*d.* and 7*s.* per dozen this year, but it may safely be said that it is not in Berkshire. Nevertheless, the fact makes it difficult to maintain a fair price. If other Associations would seriously grapple with this subject, it would assist in keeping prices up to a reasonably profitable standard. Rushing our honey on the market at one season of the year causes prices to go down at once, and if bee-keepers would combine and regulate the supply by some such means as I have suggested, there should be no difficulty in improving matters.

"As regards the cost of our scheme, it is practically *nil*, because the profit made on the labels covers any expense incurred.

"And now, a word to our worthy parent Association. As the bee-keeping industry develops, as it is bound to do, by means of the work now being done by Bee-keepers' Associations under the auspices of our County Councils, and means are being taken to encourage it among the rural working classes, we want the B.B.K.A. to step in and, by some well-considered measure, to help its affiliated Associations to dispose of members' surplus honey in London and other large centres; and I look forward to the time when British bee-keepers will be able to supply all that their countrymen require without having to go to the foreigner. This is a practical object which it is quite possible to attain, and at little or no expense may be made the means of adding one more bond of union between parent and children.

"Not the least important feature of this plan is that we are utilising existing markets, and by inducing the tradesman to place upon his shelves, which have in the past been occupied by honey of foreign production, British honey, we shall assist considerably in removing a hitherto serious difficulty to the British bee-keeper. To do this we must offer him every inducement we can, and it is remarkable in these advertising days what a tradesman will do for advertisement. We find it a useful inducement to advertise a list of agents in all our publications, and the agents themselves appreciate this very much as showing where the honey may be obtained.

"I have now laid before you, as clearly as I can, a simple plan for helping bee-keepers—a plan within the means of every county Association; and, in the interests of bee-keepers and Bee-keepers' Associations, I hope it may be the means of helping them to surmount this obstacle to their progress."

[*Discussion on Mr. Woodley's paper and further proceedings will appear next week.*]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1599.] Now that we have reached the end of the summer, and once more find the fireside comfortable and inviting, we are able to think with composure (be the outside elements never so rough) of the apiary which is in good trim, and taut against wind and rain. Now we can devote our leisure hours to reading up our favourite authors, and become posted by looking over the many articles that the busy summer months only allowed time to take a cursory glance at, or at best an undigested, hurried reading.

I beg to thank Mr. Wallis (1592, p. 418): for the system followed in this case is the correct one, "just after the fruit has set," *i.e.*, after the act of fertilisation has been performed by the insect. There have been many cases of bees being poisoned by careless spraying of fruit-trees in the United States, and their legislature has, I believe, passed a bill making it a misdemeanour, and for the first offence imposing a fine of five dollars, and for a second offence a fine of not less than twenty-five dollars, and in default of payment of fine imprisonment in jail for not more than ninety days.

I have also read cautions against turning cattle into orchards after spraying with virulent poisons.

I cannot understand how it is that friend "J. D." (1597, p. 420) gets so many of his sections spoilt by brood. I think in a former note I said I did not get one per cent. of broody sections. If I had added another cypher and said one in a thousand, I should have been within the mark this season. I have yet to put the first piece of excluder under a crate of sections, except in cases where I have had a crate of sections on top of a box of shallow frames. I scrape off any

wax or propolis from top of bars before putting on the crate of sections at the commencement of the honey harvest, and my crates take twenty-one sections resting in slots of wood (quarter of inch full) in thickness, using two-bee-way sections and metal dividers, some plain and some slotted; these are wedged up tight together (sections and dividers), and I get very little brace comb built between the top of frames and the bottom of sections, and very little propolisation, as there is so little room in which the bees can work it in, and in modern bee-keeping, where everything fits nicely, the bees are saved a lot of unnecessary labour collecting propolis, thus increasing their value as honey producers.

The Merchandise Marks Acts seem to have fallen short of honey as supplied to the consumer. Foreign honey ought in fairness to the British producer to be labelled as such, and adulterated mixture palmed off for pure honey should be labelled and sold for what it is, the same as margarine in contradistinction to genuine butter. Then if a customer required a pot of pure British honey he should know by the label on the pot or bottle that he is getting what he asks for, and where the spurious compound was offered would be informed by the label what the article was, or from whence it came. This matter, with others of a kindred nature, depends on the initiative being taken by our County Councils.

The price of honey seems to be declining somewhat. I don't know if it is the fault of bee-keepers or that the market is glutted. Unfortunately we have no price current, no authority to establish a quotation in our organs on bee-craft, so that the bee-keeper is left to his own idea of the price his commodity is worth, and makes his own terms, often to the great advantage of the retailer and his own loss. I have had some difficulty this season in getting as good terms as heretofore, and this difficulty exists with others. Retail dealers in honey expect to get their twenty-five per cent. profit. Now this reduces the profit of the bee-keeper to very modest dimensions after all the expenses out of pocket come to be totted up, *i.e.*, first, cost of sections and foundation, then glass and paper for glazing, then add time spent in glazing, or, if section-cases are used, there is the cost of such cases, packing-cases, railway carriage to and from, and in the case of the country bee-keeper—and the majority of bee-keepers live in the country—there is the carrier's carriage from and back to the railway, and then pay the carriage of the honey to town, sometimes over a hundred miles. These items generally reduce the price to or below the price the old-style bee-keeper received for his run honey in the old-style earthenware pots a quarter of a century ago. No wonder a great many bee-keepers are turning their attention to producing extracted honey in preference to comb honey, as the use of ready-built combs and the largely extended storeroom temptingly furnished with receptacles for the sweets of nature reduces the swarming impulse to a minimum and tends to increase the amount of honey gathered by a colony. Then, when the honey is harvested, it can be sold in bulk at about the same price as the comb-honey producer gets for his, after deducting his extra expenses; then the railway carries honey in tin at a much cheaper rate than comb honey. It is also handled in larger quantities. — W. Woodley, *World's End, Newbury.*

DISHONEST EXHIBITING.

[1600.] I cannot refrain from saying a word or two anent the above, because I am afraid that the practice is growing rather than diminishing. In these days of modern bee-keeping, competition is so keen that those who are not real good bee-masters find it exceedingly difficult to gain a place at our shows, and I fear some resort to tricks to attain that end. A strong incentive is the matter of district. Where a bee-keeper resides in a poor district, and *cannot* produce honey of first-rate quality, it tempts him to obtain from bee-keepers in those districts who can produce that quality. The question, however, is not the "why and wherefore," but how fraud can be proved and prevented. The latter question, I should say, would be easy after the former is successfully dealt with, viz., by publicity, as in the case referred to in your issue for October 12th. It is not often that fraud can be proved so beautifully as in the case you publish; would that it could be so! The punishment was justly awarded, and all such should be excluded from our Associations altogether. That dishonest exhibitors exist there is not the slightest doubt; the difficulty is, how are they to be caught?

Mr. Woodley suggests a clause should be inserted in all schedules to prevent such occurrences. Our Associations would, I feel sure, gladly assist in carrying out this suggestion, but how is it to be done? If one rule is disregarded, it is almost certain that another will be. What is really required is a mark or sign whereby defaulting exhibits could be easily detected. If our show committees would insert a clause in their schedules to the effect that all sections be exhibited with no wrapper or cardboard box, merely glazed by means of lace-paper edging, and all bee-keepers unanimously decide to indelibly stamp *each section* with the name of the producer, it would have the desired effect, but would, no doubt, be fraught with much inconvenience; for instance, it would scarcely do to display the exhibitor's name to the judge. If the sections were indelibly stamped with the county, this would lessen the evil.

With extracted honey I am of opinion the evil is not quite so great, but some preventive measures might be made with regard to this.

Then with regard to wax. In our county, exhibitors have been strongly suspected of keeping their prize wax and exhibiting the same year after year; so to prevent this our Association have inserted in their schedule the follow-

ing clause:—"Wax must not be priced above 2*s.* 6*d.* per pound, and must be sold if there is an applicant," at the same time appointing one of their officials to purchase the prize wax for private sale.

I am of opinion, however, that our exhibitors who are honest in this matter are either dilatory in speaking up when they detect anything, or are too fond of getting behind the hedge to throw a stone.

I have penned the above, not with a view to solving the problem, but that it may be discussed and, if possible, thoroughly thrashed out. Let us hope that those who obtain their honours by dishonesty are few and far between, and their conscience (if they have any) will receive such a sharp rebuke by the appearance of the case you gave excellent publicity to, that they will, I trust, for ever forsake such mean methods. —H. Hill, *Derby.*

BEES CLEANING UP WET COMBS AND SECTIONS.

[1601.] I have just finished reading the article in *B. J.* of October 12th (p. 411), "How to Increase the White-honey Crop," by B. Taylor, taken from *Gleanings.*

The writer says: "You need not laugh when I tell you it was my great modesty that made me name fifty per cent. as the measure of the increased crop," &c. Now, I never even smiled when reading the article until I came to the part where it says: "The empty combs will be given to the bees, after they are extracted, to be cleaned of all honey. This will be done by returning the combs to the supers, and then some fine evening, when the bees are flying, set the supers all out in the yard without any covers," &c.

Even at this I only smiled; but when I read a little further: "In the evening, after all the bees have gone home," and so on, I remembered my own experience in that line, and could get no further without having a hearty laugh. If any young bee-keeper is foolish enough to try the experiment, *he* will not laugh much, or I am mistaken. At any rate, I didn't when I tried it a few years ago. After my bees were returned from the heather, I placed a lot of partly filled sections in a crate, and one fine evening, when the bees were flying, I set it in the yard, so that they could get at it without hindrance, just as Mr. Taylor directs us, and, having to go back to business, I left them. I returned at night, expecting the honey would be cleaned up, and the bees all gone home contented and happy after their little treat; but, to my sorrow, I found that there were hundreds, if not thousands, that would never see their home again.

For a considerable distance around the crate the ground was covered with dead bees, and when I lifted the crate there were hundreds underneath in the same condition. It was not a mirthful task for me to take the garden rake and gather together and bury as many dead bees as would have made a nice swarm! So if any young beginner wishes to increase his white-honey crop 100 per cent., I would advise him to leave this part of Mr. Taylor's programme out, as I am quite satisfied he will only try it once.

Of course, if one were in the position of Mr. Taylor, and had 100 supers, with twenty-four sections in each, and millions of workers all in the yard at one time, they *might* do the business more quickly; but, outside of this happy position, I would advise that all wet combs and crates of sections be cleaned up inside the hive. —James Finlay, *Hensingham, October 18th.*

FRAUDULENT SHOWING.

[1602.] I was very pleased to see, from your article in *B. J.* of October 12th, that you afforded honest bee-keepers a a hope that "sugar-syrup" will soon be readily detected when mixed with honey. The practice of palming off this spurious article for real honey is well known to some of our bee-experts, and the article referred to makes it very clear that others than our experts are aware of this adulteration trick. I was as "innocent as a child" of this fraud two years ago, when lamenting over my "short take" of honey compared with the big takes of my neighbour bee-keepers, but an expert soon calmed my mind a little by telling me of the syrup trick practised around me. Well, sirs, I should like "big takes" to diminish a little my big outlays, but I will not resort to the above nefarious dealing for money's sake. We can hardly help thinking that some of the "big takes" recorded in the *B. J.* belong to the syrup-honey class. If they do not, I congratulate "takers" on their success, and sincerely wish them a yearly renewal of it.

I believe my bees work as hard as any of their neighbours, and are as strong, but then I have no autumn and spring dodge, so I am minus in big returns, but not in quality. It is not just to palm off a spurious article on the public, getting as much per pound for it as does another brother whose honey is worth nearly as much again. I do really hope, sirs, you will be as "plain-spoken" in this matter as you have been on other subjects, and that you will very soon fully succeed in detecting "syrup-honey" from the real thing. I have heard of some *cows* giving inferior milk to others, though in the same pasture, but never so of the honey of the "little busy bee."—Honesty, *October 17th.*

BEES IN SOUTH SHROPSHIRE.

Dishonest Exhibitors.

[1603.] I send a few notes relating to past season in this district. 1893 has been best in my record, all hives having done well. My best gave me 140 one-pound sections, and only fifteen of them not marketable. I also took from same hive five frames of honey weighing over thirty

pounds, and given to driven bees, leaving eleven frames for winter, which I judge to have about forty pounds in them. It had sixteen frames in brood nest. Strange to say, all large brood nests gave most surplus on the top.

Most of my hives take sixteen frames; they are the first I made. I then adopted the Standard size, but have returned to the old size, only shorter top bar. I now have twenty large frame hives, which suit me much better than Standard size, of which I have now some fifteen.

The Wells (of course, I must be in the fashion) I have tried, and bees did very fair, giving me forty shallow frames, 16×5. As Mr. Woodley says, they are certainly two colonies, and can't be counted any other way, in my opinion. A hive so constructed may suit a few, but never meet the general want of bee-keepers. In the first place, it is too cumbersome and expensive for most, and too complicated for novices. I can't say mine failed at all; but count it two, and I find it no better than the usual run of two single stocks.

"Apiarist" (1579, p. 396) says much surplus cannot be gathered when forage is located more than a mile from the apiary. My experience is different, providing weather is right. My apiary is situated over two and a half miles (in a bee-line) from the Longwynd, and the only heather here within that distance, and my bees worked grandly on it during the early part of August. One hive, from which I took thirty-four one-pound sections, some weighing one and a half pounds, worked without separator, as I wanted them to press, besides filling twelve frames in brood nest; and several I had twenty-four sections off.

I have driven some thirty to forty skeps and boxes this season, and found them generally heavy. I have used them mostly for strengthening stocks not up to autumn standard; but I don't shake the bees from frames, as suggested in *B. J.* I simply take out a few frames from hive I am about to put driven bees to, or, if none to spare from that one, I get some from another. I then have four or five of these frames in a spare hive or old packing-box. I then run driven bees on them, and you can unite them without any flour or scent by alternating the frames of both lots in frame hive, leaving only one queen. Of course, both lots must stand side by side until uniting takes place.

I am glad to see dishonest exhibitors run to ground. The same sections were at Shrewsbury, and I had to come off with second prize, instead of first, which would have made me three firsts and one second out of four classes for sections. I must thank Mr. W. Woodley for his help to me in producing them.—PHIL JONES, *Rose Gardens and Apiary, Church Stretton.*

BEES IN SOMERSET.

[1604.] Having seen no returns of the bees' doings in Somerset, I send my report. 1893 has been the earliest season in all my experience. Bee-keepers here are generally too early in putting on surplus chambers; this season, however, many were caught napping, and in some cases the bees had filled the autumn candy-boxes with comb and honey by the first week in April. We had swarms between the 17th of April and first week in May. After that there were but few swarms, but we got a good crop of fruit honey, followed by a short but early bloom of sainfoin; then came a break in the honey-flow, pastures being burnt up; water got scarce, and we thought the season was over; crates were removed, but after we had some rain I discovered that honey was coming in again, and replaced supers, which were in some cases filled; in fact, honey continued to come in in small quantities till the middle of September. My bees gathered about 15*l.* worth, but I cannot chronicle so much as some of your correspondents; my best hives gave me about eighty pounds each. I have also examined about 250 hives in this district, and find it has been the best season for some years. I have never seen so much brood in September before; last year this was the exception, this year it is the rule; while out of the above 250 hives only about four wanted feeding, which augurs well for next season. Skeppists are the complainers; even where no surplus chambers were put on they have had no swarms and very little honey. As the skeps are very small about here, the bees in many cases built combs outside under floor-boards. It has taught many of the old school a lesson they will not soon forget. Since our Association started, many tons of honey are gathered which was formerly lost for want of bees to gather it. I am pleased to say there is a marked interest in bee-keeping now in this district that was wanting a few years ago.—J. MARTIN, *October 17th.*

A LADY'S BEE-KEEPING EXPERIENCE IN 1893.

DEALING WITH "WELLS" HIVES.

[1605.] This has been the finest honey season with me since I commenced bee-keeping, seven years ago. My bees have given me more honey, better honey, and more swarms than I have ever had in one year before. I began the year with four hives, and close it with six.

My great trouble has always been to keep down the number of my stocks, but I never had so much difficulty as this year. My first swarm issued on June 3rd, and my last (a virgin swarm) on July 20th. Between those dates I had no fewer than fourteen swarms to deal with.

I tried two "Wells" hives, but have had poor results from both. A strong stock was put into the one end of each "Wells," and the first swarm that came off I put into the other end. The results in both cases were exactly alike. Each added swarm refused to act as the second half of a "Wells" colony, and swarmed out again next day. I was determined not to allow

this, and put them back, but they were just as determined, and came off again and again, till at last both lots came off at one time, pouring out of the four entrances, and formed one huge cluster, the like of which I never saw. I then prepared a new hive for them, and thought what grand results I would have from such an enormous swarm, when the bees rose up in a body and disappeared into the distance, and I saw them no more. Would you believe it—one of the "Wells" hives actually swarmed again, but the bees went back more tamely than before? I think my mistake was in putting the swarm into the other end of the hive they came out of. If I had put swarm from No. 1 into No. 2, and *vice versâ*, the results might have been different. I shall try that plan next year. Those two hives yielded very little honey, but the others made up for it. I got 243 one-pound sections of fine honey, including some from heather, which I never had before, besides an abundant supply for winter use. The best results were from two first swarms, hived on seven frames each, and placed on the old stands, removing the supers from the parent hives, and putting them on the swarms.

I have never been able to get my bees to work well through excluder zinc. I thought my zinc must be defective, and sent to one of the best appliance-dealers for some, but it made no difference, the supers were filled slowly wherever I had zinc on. I took off a crate of sections to try and discover the hindrance, and, on seeing the poor loaded bees struggling to get through the zinc, I resolved never to use it again. This year not a single section was spoiled, even when the queen had only seven frames underneath. I have also ceased using full sheets of foundation in supers. My bees work better with starters only, and the honey at table is much nicer without the midrib. I never put more than one crate of sections on at a time. Near a smoky town it is of importance that the honey should not remain long on the hive, and I remove the sections one by one as they are filled, replacing them with empty ones. I go over them once, and sometimes twice, a week, using two carbolic feathers, and the bees are not at all excited. In removing the sections there are always some brace combs broken underneath, and I think this stimulates the bees to work harder.

On September 3rd I took off a crate of sections, intending to prepare the hive for winter; but, seeing signs that honey was still coming in, I put on six empty one-pound sections as an experiment. On the 15th I took them off. Three of them were quite filled, and the others nearly so, with honey of excellent quality—not heather honey. I never remember honey-gathering so late in the season. The secret of success appears to lie in *young* queens and early swarms, hived on few frames and on the old stands. I have received many valuable hints from the *Journal*, and always read it with the greatest interest.

The following extract from a letter from a friend in British East Africa may interest some of your readers:—"You may remember speaking about bees in Africa. Well, the natives here go in greatly for bees and honey in this way. They hang hollow cylinders of wood from the branches of high trees, and in a few months the cylinders are filled with honey. The whole country-side shows beehives hanging from trees, and as the landscape shows miles and miles of white and yellow and red flowers, besides farms of Indian corn, &c., the material for the bees is very plentiful. The honey is very good, and we frequently boil some of it with fresh tomatoes, and after this mixture is a day old, we have a splendid jam, with just a touch of a fermentative process going on. I dare say such jam would fetch a big price at home."

Apologising for the length of my notes,—A Lady Bee-keeper, *Paisley, October 19th.*

OLD HANDS *VERSUS* BEGINNERS.

[1606.] The last part of your "Useful Hints" in issue of October 19th shows, I think, you sympathise with the utterance:

> "'Tis true
> The world was made for Cæsar;
> But for Brutus too."

For from said article we tyros learn you do not consider the old hands only among bee-keepers as entitled to the benefits your paper can confer. Much of the matter is, no doubt, as you say, "old"—to the fogeys—but beginners have a notion that bee-keeping and keepers will not die with them; hence this is the sort of stuff welcome to a good proportion of your readers, who will by-and-by form the larger proportion. After buying your paper about eight months, I was about to commence, encouraged by a "Novice's First Year's Experience," (1577, p. 395), who began in autumn. Your very seasonable remarks (p. 413) have probably saved me from a failure had I begun in autumn as I purposed. As failures at a beginning are always discouraging in anything, I thank you for those remarks.

In regard to another question noticed in Larrabee's report on United States experiments in bee-management, and on which you utter a rather decided dictum against planting anything with a view alone of producing honey, in my bee-books and *Journal* I read: "White clover" (which I have generally seen growing amongst grass) "is a valuable and productive honey-plant." Well, where I am going there is a grass-covered orchard of about an acre, rather sparsely planted with fruit-trees. From my reading I cannot help thinking it will pay to sow white clover all over this orchard, despite Larrabee (p. 411) and yourselves, Messrs. Editors. If, however, I have made wrong inferences from any data, I shall be very glad to be put right; and perhaps some other beginner besides myself may be benefited.—John Pym, *October 21st.*

BUYING WAX.

[1607.] Referring to remarks in "Useful Hints" last week, Mr. J. H. Howard writes: "In next issue tell the 'British Bee-keeper' (my customers all known it) that now, and for years past, J. H. H. buys, and has bought, British wax at 1*s.* 3*d.* to 1*s.* 6*d.* per pound, according to colour and quality."

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The last of a series of lectures organized by the Derbyshire Bee-keepers' Association in connexion with the Technical Education Committee of the Derbyshire County Council was, by special request, given in the Training College, Derby, on Saturday, the 21st October, 1893. In addition to the students in training, there were present Dr. Were (Bishop of Derby), Rev. A. E. Vintner (Principal), the teachers, Mr. Atkins (Secretary of the D.B.K.A.), and several members of the Committee.

The lecture was delivered by Mr. T. W. Jones, of Etwall, first-class expert of the B.B.K.A. and D.B.K.A. and lecturer of the Derbyshire County Council. The following syllabus had been distributed, and the lecture was thoroughly illustrated by means of the limelight, and some sixty splendid lantern slides, most of which were micro-photographs:

"*Natural History of Bees.*—The three constituents of the bee community; substances gathered by bees: honey, pollen, propolis; bees and flowers: fertilisation; the flower: calyx, corolla, stamen, pollen, pistil, ovary, fruit; the habits of the queen, drone, and worker; the worker-bee in its relation to honey, pollen, and wax: its sting, poison glands, &c.

"*Practical Apiculture.*—Hives, skeps, moveable frames, supers, sections, &c., comb foundation; manipulation or management of bees: smoker, veils, gloves; swarming: its causes, objects—natural, artificial; method of examining a bar-frame hive, the smoker in use, driving bees, finding the queen; the egg, larvæ, pupa, imago, nurse, worker; the production of comb and extracted honey; the feeding of bees; enemies and diseases of bees." A bar-frame hive, with accessories, was on view for illustrating the methods of hiving, examining, supering, and the removal of surplus honey.

Mr. Jones delivered an excellent and exhaustive lecture, retaining the attention of his audience for nearly two hours, and at the close was warmly thanked for the intellectual treat which he had given them.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

Amount already acknowledged	£48	8	6
E. Basley	0	4	0
G. J. Y.	0	4	0
A. G. Pugh	0	2	6
A. Robinson	0	2	6
A Well-wisher (Hereford)	0	1	0

We remind readers that the list closes next week.

Queries and Replies.

[905.] *Bees in "Wells" Hive. — Candied Honey.*—In the middle of April last I purchased a new "Wells" hive, and *two* strong stocks of hybrid bees for same. All through the summer they have worked hard. The other day, I went to take the honey; to my surprise I found one division of the hive without a bee in it, but there were fifteen frames full of honey, and four or five ditto with some honey in and some brood. The other division is full of honey, and apparently the usual stock of bees. There is no communication from one division to the other; if they have united, they have done it at the entrance. 1. Is this not very strange? Also please say—2. If honey in frames becomes candied, can it be melted in any way and got out without injuring the comb? Or—3. If put in the hives for winter, will bees feed on it as well as on sugar syrup?—I. F. Thoday, *October 1st.*

Reply.—1. We cannot quite understand your "Wells" hive or the way in which it was worked from the particulars detailed above. The twenty frames referred to as the beeless division must include a surplus chamber, as well as that for brood, and to work a "Wells" hive properly, the bees of both divisions should have access to a surplus chamber overhead common to both lots. In your case, however, it is stated that "no communication" exists between the two divisions. It would seem as if the queen of one division had got lost, and that her bees had fraternised with those in the other compartment. 2. Granulated honey cannot be got from combs without injuring them. The only way is to melt the combs down and let the wax rise to the surface, when it may be lifted off. 3. Bees cannot winter on granulated honey.

[906.] *Planting Trees for Honey.*—I am about to plant some trees, and, being a bee-keeper, I am thinking that I might as well plant such varieties as may ultimately become useful to the bees. I should therefore be glad of replies to the following questions:—1. Is honey obtained from poplars to any appreciable extent? If so, from which varieties, and during which month do they come into bloom? 2. The same question as to plane-trees. 3. Excluding fruit-trees, are not limes the greatest honey-producing trees?—T. B., *Middlesex.*

Reply.—1. The poplar is of no service as a honey-producing tree. 2. If by "plane-tree" you mean the sycamore, large quantities of

honey are, in some seasons, gathered from its blossoms, though the honey is not of first-class quality. 3. Yes; the lime is the most prolific of all our British forest trees in respect of its honey-yielding properties. The crop, however, is rather a fickle one, though in some years an enormous quantity of honey is gathered from its blossoms.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication. All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** Referring to the request, on page 388, for a neat folding cardboard box for sections of comb honey, Mr. F. H. Hargrave writes to say that he supplies the article asked for at 3*s.* 6*d.* per 100.

Wilfred Shepherd.—*Bee-keeping as a Business.*—We are glad to learn of your intention to begin in a small way and increase the number of stocks as your knowledge and experience in the pursuit becomes more extended. *Text-book.*—We know of no more reliable text-book than the *British Bee-keepers' Guide-book.* It has now reached its twelfth edition in this country, besides many translations having been published in various parts of the world. *Size of Frames.*—Since our opinion is pointedly asked, we recommend, without hesitation, the Standard frame for brood chambers. It is idle to talk of its disadvantages compared with others in face of the splendid results obtained by its use, as recorded in our pages. When the advocates of other patterns or sizes of frame can show equally good results, it will be time enough to decry the "Standard." Meantime "he who runs may read," and the fact of 500 or more Standard frames being used in brood chambers to-day for every single one of any other size is very suggestive as to which is best. Prior to establishing a British standard, the frame most in use in this country was the "Woodbury," and this differed but little in size from the present "Standard." *Hives.*—We do not care to force our own preference upon others, because differences of opinion exist among the most experienced. We also make a point of not specially recommending particular dealers or manufacturers. You cannot, however, go very far wrong—when seeking for "a hive embodying the very best principles"—by noting what sort of hives meet with the approval of those entrusted with the responsible duties of judging at important shows.

R. G. (Renfrewshire).—1. There must surely be something wrong with the bees, or else your location is a very poor one for honey, when so little surplus has been gathered in a good honey year like this. Brood combs do become dark in colour with age, but those only one year old should be in good condition for some time to come. 2. It is not certain that the bees would have done any better in sections placed in rear of brood nest instead of overhead, and there must be some good reason why the sections were not occupied by the bees. The cause of failure can only be determined on the spot, or perhaps by us having a piece of the brood comb for inspection.

Amateur.—A description of the hive referred to can be had for cost of the book published by its designer. There are no patent rights attached to it that we know of.

C. E. Read.—Concerning the "Wells" system, we can only refer our correspondent to what has appeared in our pages for its success or otherwise. Some have done well with it, others not well, and it will require more acquaintance with the method before its merits or demerits can be generally approved in the hands of the ordinary run of bee-keepers. We must say, however, that the failures, so far as can be judged, are on the part either of the hive to fulfil the conditions or the bee-keeper to carry them out, rather than that of the system itself.

J. D. Russell (Parsonstown).—*Wasps and Hornets.*—A hornet is very much larger than a wasp, and instead of the body being bright yellow, striped with black, as in the wasp, it is yellowish-brown, with darker brown markings having a reddish tinge. In other respects its structure is similar. But a hornet cannot well be mistaken, as it is so very much larger, and flies more heavily. Queen-wasps have been occasionally mistaken for hornets; but, even between these, the difference is so great as to be easily distinguishable by those who have seen both insects.

W. H. L.—The gentleman referred to has bought considerable quantities of honey of good quality through this office, and if you will address a letter here, we will forward it to him.

J. Anderson (Dorset).—Sample sent is largely mixed with heather honey, which has caused the difficulty in straining it. The same trouble will always arise with heather honey in skeps; the brood combs being hard and tough—besides containing pollen—the contents get mixed up when "pressed out," as in your case, and the result often is a honey that is almost unsaleable. The "taste of bee-bread" complained of is entirely due to the admixture of pollen with the honey.

Conclusion of the Article on page 422 of our last issue is unavoidably held over till next week.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

THE CONVERSAZIONE.

(*Continued from page* 426.)

Mr. Garratt thought the meeting was much indebted to Mr. Woodley for his lucid statement of the highly practical and useful measures taken by the Berkshire Association, to which every credit was due for their enterprise. He was glad that the subject would now come before the readers of the *Bee Journal*, and he hoped that other counties would be found to follow the excellent example set by Berkshire. The plan was extremely simple, and seemed to have been adopted at a time, and under conditions, which had contributed materially to its success. There were one or two points on which he would like to question Mr. Woodley. For instance, what means could be adopted to secure a uniformly good quality of honey; also, how was the supply maintained all the year round? It was well known that, in different parts of any county, different qualities of honey were produced; in one locality the honey might be of light colour and good, while in another portion of the county it might be the reverse. He would like to know whether the honey was submitted to any person appointed to value it. He thought there must be some system of inspection to ensure satisfaction, and a person at hand who would be able to assess the market value of the produce. The question of the size, shape, and price of the package should be carefully taken into consideration, and he considered the specimens exhibited by Mr. Woodley were very creditable. Of course, everything depended on the honey being put on the market at the lowest possible cost. All these considerations necessitated time and thought, and required the help of a directing mind and hand.

Mr. Carr expressed his admiration of Mr. Woodley's exhibits, and wondered whether it was the rule for members of the Berkshire Association to be able to put up samples of honey in the neat and tasteful fashion of the specimens before them. One could hardly believe that they were not sent out from some regular packing establishment. While delighted with the spirit and perseverance of the Berkshire bee-keepers, he could not quite understand how it was possible for the Association to regulate the quality of the honey that the members offered for sale. Then, with regard to price, some honey was worth several pence per pound more than other honey. Those were difficulties which the late British Honey Company had to contend against, and especially in regulating the supply to the demand. Some of the honey sent to them was so bad as to be almost unsaleable, and the colour and quality varied to such an extent that it was an impossibility to maintain anything like uniform charges. He would be glad to know how the scheme worked out in practice; also what price the members were able to obtain, as a rule, for their honey. Prices had fallen considerably within the last five years; that which sold for 10*d.* per pound in bulk some years ago, now only realised about 7*d.*

Mr. Meggy explained the system which prevailed in Essex for disposing of members' honey. In this case the expert undertook to purchase from every member of the Association honey at 1*d.* per pound less than market price. The Berkshire plan was, no doubt, preferable, because, while disposing of the honey, it afforded an admirable advertisement for the Association in the labels and grocers' certificates which were supplied for inspection. He could not agree that bee-keepers' profits must be curtailed, but he thought the present low prices must be counterbalanced by the bee-keeper producing double the amount of honey to what he used to do.

Mr. Till said the subject of Mr. Woodley's excellent paper had occupied the attention of Mr. Garratt and himself for a long time past; and in Kent they had taken the first step towards following the plan carried out in Berks. They had chosen agents in the county for the sale of Kent honey. He believed there was a good market in London for British honey, which only required development. It was most desirable that a public taste for British honey should be fostered, else the trade in that article would be lost. To avoid such a result, our bee-keepers must try and push the sale of British honey as a superior article, and so guard against the influx of Cape, Australian, New Zealand, Borneo and Singapore honey. He did not fear the competition of eucalyptus honey, which was medicinal only. He quite believed that the remedy for falling prices was to double the production.

Mr. Blow thought the reputation of Associa-

tions would be damaged if dark honey were put up in glass jars, like the exhibits shown; but the inferior produce might be packed in stone jars and sold at a cheaper price. The competition of foreign honey was somewhat severe, although, on the whole, he thought not to be feared. But, in any case, the remedy against it was the one already suggested—produce double the quantity. If that could be continued, there was not much to fear from foreign competition.

A general conversation followed relative to the prices of British and Foreign and Colonial honey, and as to the likelihood of the market prices suffering further abatement owing to the influx of honey at cheap rates from abroad. Messrs. Till, Garratt, Blow, Carr, and the Chairman spoke on this subject, the latter gentleman saying that he had seen exceedingly good sections, but narrower than ours, in Philadelphia selling at ten cents each. The general opinion, however, was that British bee-keepers had little to fear in competition with the foreigner as regarded home markets.

Mr. Woodley, in reply to the several questions put to him, said, with respect to the maintenance of the average quality of the honey, his Association made no stipulation with members, but left such matters to the agents, who they recommended to try a sample of each honey before buying a quantity of it. In a very short time the agents became sufficiently educated and could tell a bad quality from a good one. Concerning the market value, no regular price was fixed by the Association; agents and members being left to settle that between them. Good sections glazed had made from 9*s.* to 10*s.* a dozen. They did not insist on any particular form of glazing or bottling, but the style exhibited was what the Association recommended, and was generally adopted. The members soon found out what the agents were willing to buy. If the Association found out that honey of an inferior kind was being sold under its label, the privilege of using the label would be withdrawn from the particular agent; but no complaints had reached them on that score. They had a form of application for the labels, which contracted that the applicant should put up only pure Berkshire honey. The labels were supplied at 1*s.* per 100, or 9*s.* per 1000. Of course the Committee were watchful and careful to see that the privilege was not abused, and would withdraw it if any ground could be established for doing so. They had issued during the last five years, roughly speaking, about 30,000 labels, and had just printed a new series of 20,000, which had been drawn on pretty heavily during the present season. Each series was numbered consecutively, beginning at No. 1, and there would be in future a distinctive mark on each label thereof, so that the numbers of every particular issue could be identified. There had been no difficulty in carrying out the system, which had worked very well. His Association wanted to do away with the evil of competition among bee-keepers; they wanted to prevent all the honey being forced on the market at once, that was in July, August, and September, and they were anxious to create a market for it during the other nine months of the year. Undue competition was caused unless some means existed of regulating the supply and demand, and he hoped to see other counties following in some form or other the lead of Berkshire. As regarded labels and registry the matter was very simple indeed. The Secretary had only to bring applications before the Committee, send off the labels and make the necessary entry in his books, and take every opportunity of putting agent and producer in communication with one another. The Association recommended that inferior honey should not be sent out with their label thereon, but be otherwise utilised. A great feature of the scheme was the gratuitous advertisement given in the Association's publications to the different shopkeepers, who, it might as well be stated, were at liberty to sell any other honey they pleased. All the Association demanded was that they would pledge themselves to keep a stock of the members' honey supplied under the conditions named. There were seven agents in Reading, who were among the best tradesmen in the town, one of whom only a week or two before sent for 3000 labels.

Questioned by the Chairman and Mr. Carr as to the existence of any guarantee that such labels would not be misapplied, Mr. Woodley admitted that there was no absolute check against that evil, but said he did not believe that tradesmen of high social standing would be guilty of placing the labels on foreign honey, especially as they had to give a guarantee before receiving the labels, and would pay the penalty if found out.

The Chairman moved and Mr. Garratt seconded a vote of thanks to Mr. Woodley for the excellent practical information he had given; and the latter gentleman acknowledged the compliment.

[*Remainder of proceedings, including the discussion on width of shallow frames in surplus chambers, will appear next week.*]

HONEY SHOW AT KILMARNOCK.

Brief Notes on the Show by the Judge.

The show took place in connexion with that of the Dairy Exhibition at Kilmarnock on October 20th.

General.—An exceptionally good season has brought about an unusually good show of honey.

Run Honey.—Very fine display; very little immature or poor honey. Prize samples perfect in flavour, consistency, and colour.

Comb Honey.—(*a*) Sections.—A few imperfectly finished; but colour, capping, and flavour very good. (*b*) Supers.—A fine show. The get-up of this class improving. Preference for supers which give an all-round view of honey.

Honey Designs.—This is the fine art of honey production, and requires great skill and patience. Specimens well up to the mark.

Growth of Industry.—The importance of bee-keeping to cottagers, gardeners, and farmers is

becoming more evident, not merely for the sake of honey-production, but for seed-raising and fruit-growing.

The Rev. R. McClelland, The Manse, Inchinnan, officiated as judge, and made the following awards:—

Six 1-lb. glass jars of extracted honey.—1st and 3rd prizes, W. Hogg, Castle Douglas; 2nd, John M'Creath, Dumfries.

Design in comb.—1st and 3rd, Ross & Kerr, Dargavel Apiary, Dumfries; 2nd, Sidney Roebuck, Dumfries.

Super of comb honey (10 lbs. or under).—1st, W. Hogg; 2nd, Ross & Kerr, 3rd, S. Roebuck.

Super of comb honey (over 10 lbs.)—1st, Archibald Montgomery, Townend, Kilmaurs; 2nd, Ross & Kerr; 3rd, John Boyd, Dundonald, Kilmarnock.

Six 1-lb. sections.—1st, Ross & Kerr; 2nd, John Palmer, Ludlow, Salop; 3rd, Hugh Smith, Tofts, Tarbolton.

Six 2-lb. sections.—1st and 3rd, Ross & Kerr; 2nd, Walter Graham, Cummertrees, Annan.

Special Prizes.

Two 1-lb. glass jars extracted honey.—1st, William Blackwood, Castle Douglas; 2nd, William Hogg; 3rd, John M'Creath.

Twelve 1-lb. sections comb honey shown in holders.—1st and 3rd, Ross & Kerr; 2nd, H. Smith.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES IN STAFFORDSHIRE.

SOME NOTES ON WELLS DUMMY, ETC.

[1608.] The season here has been the best in my experience. The extracting and disposal of between five and six hundredweight of honey from fourteen stocks has proved good fun and fair profit during spare time. My little boy swarm-watcher held a sinecure. No emigration; nothing but work. The "Wells" hive gave me 100 pounds. As I said in the spring, it was the home of two small nucleus lots, put in last autumn. It took some time to increase their frames to twenty—ten each side—before supering, and, therefore, it is scarcely fair to compare them this year with any other two single-queen lots, well established. But I was grateful for 100 pounds surplus, and for the nearly forty pounds natural stores which they have for winter. But gentlemen, they *will* propolise the perforated divider. Every one of the 400 eighth-of-an-inch holes was solid. And it is true "Wells" too. It does not make a bit of difference. It is all very well when you are building up your colonies. They will accept warmth and congratulations from each other through the peep-holes then, just as described by our friend "The Heathen" in your monthly; but let him wait until after his honey-flow, when the bees are strong, and are beginning to pack up for winter. They feel independent then, and propolis being quite as abundant as nectar, up go the perforations. However, the "Wells" is worth a little extra trouble. Drop an ordinary dummy between the frames, carefully separating the two queens, put on the quilts for a few minutes, and poke the holes clear with the skewer (in handle) with which you first burned them through. I have had to do this. The bees are now clustering each side the divider, and I don't expect to find it stopped again before next August. What a pleasure to have had no occasion for feeding, either spring or autumn! I don't like sugar-buying, or sugar-boiling. Wish we could always do without it. If a neighbour happens to see you, no matter how honest your design in giving needful sustenance to the brood nest, he will satirically ask if that is your way of making honey. He must be an unconscionable rascal who, knowing anything of the nature of pure honey, would supply sugar to his bees for sale as honey. I know of no bee-keeper who would even dream of it.

I attribute most of my success, so far, to young queens. Of my fourteen queens at present, seven are of this year, seven of last. I raise as many young queens as there are queens of two years old, set the nucleus stocks by the sides of those to be re-queened, and, when the honey-flow is over, depose the two-year-old, and unite the two lots with flour. I have never had a queen rejected. I am largely indebted to the excellent correspondents of your *Journal*. May I point out an improvement, which will be useful to many of them? When I first used the "W. B. C." end for frames, I was annoyed to find that it fell below the utility of the old leaden end in one particular. It has no spur underneath, when on the frames, to prevent its "jamming" against the side of the shallow-frame box. The old leaden spur gives a perfect bee-way. The "W. B. C." does not. The thing is the more important in the brood nest, where, unless the hive is just seventeen inches wide, for the top bar to accurately fit (and many hives vary), the bee-keeper is in danger of crushing his bees, possibly his queen, between the frames and the hive-side. I make a couple of cuts with the shears into the tin of the "W. B. C.," turn up the middle piece, and the difficulty is obviated at once. A perfect bee-space is obtained, and regularity of frames in the hive made certain.

Do not deem me impertinent if I vent a thought that must have occupied the minds of many of many of your readers. Where is our friend "X-Tractor?" Why does he not adorn your pages, as he was wont to do? I always read him first, and now I miss him much. He was the very poet of bee-keeping. Dry instructions are all very well, but "X-Tractor" *sang* the art. He taught me to build a "hut," and woe to those who would speak of it as "shed" or even "bee-house." With me, it is always "In the Hut." He taught me to paint hives white, and many things beside. He sent me to the poets to corroborate his apt quotations, and now I fear the pleasure is no more. If you can influence him, Messrs. Editors, ask him to write again. He must have had a lot of time for reflection lately. With best wishes for a happy season in 1894—H. C. J., *Horninglow Cross, Staffordshire.*

[Having a sort of parental interest in the W. B. C. end, we may be allowed to explain that in properly made hives the length of top bar accurately regulates the distance between the frame and the hive side. But our chief objection to our correspondent's plan of providing a makeshift spur is that by so doing the important advantage of being able to space the frames at one inch and a quarter apart, for preventing drone-production, is done away with.—EDS.]

EXPERIMENTS WITH THE "WELLS" DUMMY.

[1609.] Your correspondent, Mr. Tustain (1593, p. 418 of *B.J.* for October 19th) makes a very one-sided statement with respect to the "Wells" dummy. Of course, only your correspondent himself can tell what he has, or has "not read of," but you gave him an opportunity of reading of one success and I am happy to furnish him with another. But surely he does not expect Mr. Wells to guarantee unqualified success to all who choose to *think* they are adopting his methods? That gentleman has not pressed any one to try his system, and certainly he has not desired any one to play tricks therewith. If "1593" or any other bee-keeper thinks he knows better than Mr. Wells and sees fit to make experiments—be they either "improvements" or variations of their own—of course no one objects, but don't let them call it the *Wells system*, because that is just what it is not. Zinc, for instance, is manifestly not a material suitable for a Wells dummy-board, and for the life of me I cannot see why bee-keepers should go out of their way to use such things when a properly made wooden dummy is known to answer perfectly in reasonably competent hands. If a bee-keeper is going to become a "Wellsite" he must work strictly on Mr. Wells' lines, or he may just as well place two skeps of bees side by side and fancy himself the possessor of a "Wells" hive. On another point: I have wondered how your correspondent accounts for six of his seven stocks being found broodless on the 7th of October? This means that the queens ceased laying in the middle of September—and such a September!

On the 16th of October in all my stocks I found at least two combs with patches of brood in all stages. I have now five Wells dummies in use which are a perfect success, the bees on both sides forming one cluster and not a dozen holes closed in the whole five. It may not be out of place here to add a few words as to what I have done in 1893. From two moderate stocks in the middle of May I took a little over eighteen pounds of honey; then fed slowly for about three weeks, and the brood nests were gradually extended until about the middle of June, when the bees covered twenty-two and nineteen frames respectively, with brood in about eleven frames; I next removed the queens and all the young brood and eggs, with the bees covering the frames, to a fresh position, then giving the old stocks one frame of selected eggs each from the best bees (*i.e.* those that worked the hardest) to raise queens. One raised five and the other six queen-cells. On the 6th of July I divided the two stocks into nine nuclei, placing eight of them into four "Wells" hives and giving a queen-cell to each. The queens hatched out on the 9th and 10th of July and I found eggs laid in two of the hives on the 23rd, and by the 28th of July eight of the nine queens were successfully mated and laying. Fortunately I had previously detected queen-cells being raised in the ninth nucleus, and gave them a few eggs from one of the original stocks, so only lost about twelve days, as I see from my diary that by the 14th of August all my queens were laying.

I would add I think it advisable to paint these double hives different colours, especially if used for raising queens—this being the only outside precaution I take to keep the stocks and queens apart. Both entrances are in front and very close together, yet I had no trouble whatever in getting the queens mated. On several occasions I saw them on the alighting-board and flying about the entrances of both hives, and, with one exception, they always found their way back into their proper hives. My perforated dummies are made from wood usually used for backing pictures, and can be bought very cheap and is just the right thickness for the dummy, which should contain from 200 to 300 perforations, not quite large enough for a bee to get through.

Although I have taken no honey from these stocks since May yet it must be recorded that the bees of the two original stocks, subsequently divided as above mentioned, built out and partly filled no less than seven dozen frames of foundation.

From the above it will be seen that the Wells system is no failure with me, and I am perfectly certain that if my brother bee-keepers will only intelligently carry out the system as described in the columns of your *Journal* by Mr. Wells, we shall hear of very few failures (if any) and in my opinion had "1593" adopted a properly made dummy he would not now write that his bees are broodless (that is, of course, provided his queens are worth the keeping). All I know is that my bees show no sign of being broodless for

some weeks to come; I stopped fast syrup feeding on the 1st of October and gave them a cake of candy to eat winter passages through, but I found they had within a week played the "confidence trick" with this, and owing to the mild weather a second supply has gone the same way, and they are to-day making tracks in a third addition and still seem as far from the *terminus ad quem* as—THE HEATHEN, *October 26th.*

AN ARTISAN'S FIRST YEAR WITH BEES.

[1610.] If space allowed I thought that an account of my first year's bee-keeping might interest learners like myself. By trade a painter, I have for nearly two years past been in the Insurance line, and about four years back, being away from home, working and lodging with a carpenter who kept bees in frame hives, I turned to and made a hive during my spare evenings from a pattern made by my friend and brought it home, but beyond buying some comb foundation I never got any further until last autumn, when I drove the bees of two straw skeps and united them, giving full sheets of foundation, and after finishing the feeding process I put the hive indoors until the spring, when I put them out in my bit of garden just close to my house, and kept increasing the frames in body of hive until I had ten in, after which I put on a rack containing twenty-one one-pound sections, with excluder under, and acting as some others have done I had the excluder fitted in a wood frame which allowed too much room below, so the bees built comb and stored honey under the excluder. However, I took off forty-two sections, thirty-nine of them being nicely finished, I also took away one frame of honey, which weighed six pounds, and having a chance to get some more driven bees I got another hive and drove two skeps, uniting the bees and giving them a frame of comb and food from my first hive, and in the other frames sheets of foundation. Since that time I have—with the help of a carpenter and sketches in back numbers of *Bee Journal*—made a "Wells" hive, but I am afraid my dummy-board is not quite as it should be. I made it of yellow pine, quarter-inch thick, with a frame of stouter wood outside. I drove five skeps, putting three lots of bees on one side and two on the other; they are very quiet and seem to be clustered pretty thick on each side of the dummy. I also took four frames of honey from my first hive, and put two of these on each side of the dummy (as I see the idea is to get the bees to take to clustering on to the latter), I then gave them comb foundation and some drawn-out comb. I did not put the bees in both divisions at the same time, there being about nine days between, and I had unfortunately left the frames spaced wider apart than usual, there being a good space between each comb directly under the feeder, so the bees began building comb in that space, and there was brood in it when I came to set them in order before putting the bees in the other half of the hive, so I fixed this comb and brood into another frame and gave it to the second lot of bees. I am now feeding up, allowing say five pounds for each of the frames of honey given to the driven bees. I have taken about seventy-five pounds of good honey of good colour, and visitors who brought some have praised its quality very much. Not so bad for a beginner, but bee-keeping is not gone into much here, so I do not know whether the districts is a good one for honey or not. We are about two miles from the moor, where there is plenty of heather. I must conclude by asking: 1. Is excluder zinc required in a "Wells" hive when working for sections? Would not the queens be liable to get together without it? 2. Should all drones be disposed of by this time? —W. ALLEN, *Okehampton.*

[Referring to the "Wells" dummy, the fault of putting a frame of stouter wood round it lies in the increased space it affords between the face of the comb and that of the dummy. If the space exceeds five-eighths of an inch the same mischief may follow as resulted from your allowing too much space below excluder zinc mentioned above. In reply to other questions asked—1. Queen-excluder is indispensable below surplus chambers in "Wells" hives. 2. Yes, if normal drones are still alive it is an almost sure sign the hive is queenless.—EDS.]

BEES IN CO. KILKENNY.

[1611.] It would be unfair to remain silent because I happen to be unsuccessful. My partial failure may, however, be a warning to others who, like myself, do not know what cause to attribute their losses to. I had foul brood in my apiary, but it could not well be the sole cause of my heavy losses, because I fed all stocks last autumn with medicated syrup, and constantly keep naphthaline in the hives. I wintered eleven frame hives and four skeps well fed up. All save one skep which became queenless came out apparently strong in early spring, and were working and bringing in pollen rapidly every fine day; but as time wore on, instead of the bees increasing, they began to decrease. I examined the hives when I could get a chance for the robber-bees with which I have been infested, and found plenty of stores, and also queens all right except one—some with as many as three or four eggs in every cell of the small patches covered by the bees; but I was not a little puzzled at seeing so few bees in each hive. Where did the monster lots I packed up for winter go to? The weather was so bright that the bees were constantly going out, and as I believe getting chilled, and never returning during March and April. One stock succumbed after a frosty night, then another and another, until by 1st of May six of my eleven stocks in frame hives had perished. It was sad to see the few poor bees dead on the floor of the hive, with their queen still alive. I have now five frame hives left, two of which began to increase rapidly. The others, though weak, became

fairly strong by June, so I supered them, but got no surplus; however, before the clover was out of bloom, they had increased so as to cover eleven frames filled with stores. Of the skeps, one gave me two swarms, more welcome under the circumstances than any amount of finished sections; but the remaining two, though supered, yielded no surplus; of course, dwindling set in with these also. The two prosperous hives referred to gave me eighty-six one-pound sections, which form the bulk of my harvest.

I purchased four swarms, joining two together with a view to having a strong stock, but retained one of the queens and about a point of bees, to form, as I thought, a nucleus. I placed these latter in a small hive and left them for a time, but on my return they were nowhere to be found. I would not have gone to this expense only I cannot bear to see empty hives and bee-furniture lying about and no use for it. I have one consolation, namely, that it cost me nothing for sugar this season, and I have thirteen stocks all well provided with natural stores; each appears to be very strong in bees, and all working hard on the ivy.

Now I shall state my opinion of the cause of failure, and I shall be glad to have the opinion of those more experienced, that I may be wiser under similar circumstances:—1st. I believe that when I commenced to feed in September, 1892, all breeding had ceased for want of food, and the queens did not commence to lay after or during the feeding process, which was done with a rapid feeder. 2nd. The spring opening up so early, and having all old bees in the hives, they were not equal to the work the bright weather encouraged them to do. If this is not the cause, I do not know what is.

I will now relate the case of a friend who, like myself, has been unfortunate in wintering, and yet very fortunate during the swarming season following. His apiary is situated in a large garden with pleasure-grounds and an extensive demesne all around, where there are every kind of flowers from the early snowdrop to the winter chrysanthemum. He had eight fine stocks in frame hives last season, and lost all but one during the winter. The hives were removed indoors as they became vacant; but as the remaining one showed signs of swarming in June, one hive was fitted up with ready-built combs and placed on the stand. The writer, one fine evening in June, went with some visitors to show them these beautiful grounds. We had a walk through the garden, and I of course had a look at the bees, which had not yet swarmed, for they were clustering outside. "I have this hive," said my friend, pointing to what he thought was an empty one, "ready for the swarm." I lifted the roof, and on removing the quilts we were agreeably surprised to find a fine swarm fully covering ten frames had taken possession. My friend set up another hive that evening, which was taken possession of by a swarm next day. He set up another and another, which were all occupied before the end of the month, and nobody knows where the bees came from. So there is a case of "decoy hives," the result of which is that this gentleman's apiary is almost as strong as if he had lost none! Now a word about the honey crop, and I shall be done. The average for 1893, as far as I can gather, is for frame hives about forty pounds, with sufficient winter stores left, and for skeps about thirty-five pounds, which of course includes all in the skep. There were some early swarms, which were mostly vagrant; but the rule is, swarms were never so scarce in this place before.—J. H. K., *Co. Kilkenny, October 20th.*

HONEY AT LONDON DAIRY SHOW.

[1612.] I expected to have seen in this week's *Journal* some observations on the falling off of the exhibits of honey at the last Dairy Show, but seeing none I beg to offer a suggestion as to the reason of the falling off.

If we look at the honey prize lists of the past "Dairy" and many other shows, we shall see that the majority of the best prizes have gone to one exhibitor (and I do not, for one moment, wish to infer that the prizes have not been honestly won), but I believe the effect this has is just the same as it would be if, at a flower or vegetable show, the several classes were open to all—cottagers, amateurs, and professionals alike. In the latter case, the bulk of the prize money would, in all probability, be won by professionals, and the exhibits of other competitors would be very few indeed. I see some difficulty in classifying bee-keepers at horticulturists and others are classed—but what chance of winning has a bee-keeper that can only keep, say, a dozen stocks with the man owning a hundred or more, and who is practically a professional bee-keeper, employing maybe his whole time in the pursuit? The exhibits of the latter are wonderfully attractive and instructive, but being admitted into the classes on equal terms with the smaller producers—and would-be far more numerous exhibitors if more favourable conditions existed—it has a decidedly unfair aspect; especially is this the case when the professional bee-keeper has the additional advantage of being located in an exceptionally good honey-producing district. Dividing the classes into sections, with a corresponding increase of prizes, would doubtless bring more entries, but the inequality of footing of the different exhibitors (before mentioned) would be greatly felt.—Hy. Neve, *Heathfield, Sussex, October 27th,* 1893.

[The diminished entries at the Dairy Show were commented on in our issue of October 19th, and an increase in the number of classes and prizes suggested. The difficulty in classifying exhibitors is, we are glad to see, admitted by our correspondent himself, and it is very great, unless the amount of prize money at the disposal of the framers of the schedule could be increased. This is the main question to be considered.—Eds.

EXHIBITING AT THE DAIRY SHOW.

[1613.] Referring to your comments *re* the Dairy Show on p. 414, allow me to give my experience at this season's show. You observe the "almighty dollar" is a great factor in these affairs, and especially in showing, although the meeting with bee-keeping friends is one pleasant set-off against many of the expenses incidental to attending shows. Unfortunately for myself, when the time for closing entries was nearly up, I had got a bad touch of rheumatism, so I decided to make one entry in each of the three classes, viz., twelve sections, twelve jars liquid honey, and twelve jars granulated, and not in the fourth because of my inability to stage it myself.

I give below just what it cost me to carry out my resolve:—Three entries at 2*s.* 6*d.* each, 7*s.* 6*d.*; carriage to Coventry, thence to Dairy Show, 2*s.* 6*d.* The twenty-four bottles were returned by *passenger* train from Euston at a charge of 4*s.*, although the labels were addressed to be returned by "Midland *goods* to Coventry." Then there was an extra 6*d.* to pay carrier. The twelve sections were sold I suppose, although I have had no notification that such was the case. Anyway, they were not in the package returned. So you see, though I won a second prize of 10*s.*, I am 4*s.* 6*d.* out of pocket through the show. I am not saying this in a spirit of grumbling, but only to state facts. I had priced the jars at 12*s.* per dozen, but wrote the Secretary offering to take 10*s.* per dozen on the last day, if not previously sold. I expect the course adopted with regard to selling would be the same this year as last, when intending purchasers were not allowed to take the honey out with them, and of course they would not return when the show was over for a bottle or two of honey.

Another reason must militate against entries at this particular show, and that is, when only one award is made, in a class where three prizes are offered, because of insufficient entries.—JOHN WALTON, *Weston, Leamington, October 25th.*

POSERS.

[1614.] That "Other Man of Kent" (1587, p. 406) thinks I have been giving you a "poser," but it is a solid fact, I am sorry to say, and there are other bee-keepers throughout this district that have a worse average than mine. If it were mine alone, I should begin to think there was something the matter with the bees; but it relates to scores of bee-keepers (not hives, Messrs. Editors). As I am, to use a slang term, always "upon the road," there is scarcely a day passes but what some one is asking something about bees; in fact, I know more what my own bees are doing through seeing other people's bees at work than through seeing my own. Now, I will try to answer some of the queries put to me. 1. "Are his queens antiquities or have they foul brood?" I have queens from six months to five years, and can prove the age by my diary. No guesswork here; solid facts. Five years is too old, I admit, but I have been trying the experiment for the last two or three years to get the bees to replace an old queen with a young one, but cannot succeed yet. Foul brood *nil*, as far as I know, but I am always working against it, buying naphthaline by the pound.

2. I think I have shown before that my bees are not the exception in Kent. Your correspondent, "J. G. K.," says, (1522, p. 334), "Out of sixty hives I have fed up eight already with one hundredweight of sugar," and that he has taken no honey to speak of, and what he has taken has been the colour of porter, not fit to sell nor yet to give away. If not a Kent man, he keeps his bees in Kent, and I believe his average would come out worse than mine. Let us have it, "J. G. K."

3. "Am I a subscriber to the Kent Bee-keepers' Association?" No; I was once, but for reasons of my own I gave it up; but if I thought they could ensure me a good honey crop, I would join again even now. Your correspondent's reference to the harvest secured by a "Woman of Kent" quite makes my mouth water, but it may be my turn next year.—MAN OF KENT.

LECTURES ON BEE-KEEPING.

[1615.] The question raised by your correspondent "Subscriber" (1595, p. 419) is an important one. In these days of popular lectures, attended as they are by many intelligent and thinking men, the lecturer cannot be too careful in the statements which he makes, as one wrong statement tends to shake confidence, and brings the whole subject into contempt. A few days ago I attended a lecture on bees, given by a second-class expert, and was astonished at several statements which he made. The pollen-basket, he told us, was on the same side of the hind leg as the collecting-comb, the hooks were on the upper wing, and the plait on the lower, &c. Surely a person who professes to teach bee-keeping should be certain of facts, and not be guilty of such inaccuracies as mentioned.—BEE, *Derby, October 23rd.*

CARRYING BEES ON BICYCLES.

[1616.] As I inquired earlier in the season whether you considered that bees might safely be carried in boxes on bicycles after being driven, I thought it might be of interest to hear the result of my trial.

About the first week in September I rode over on my machine to where the bees were kept (about ten miles) and arrived there at 6.30 p.m.

I drove two skeps into a couple of boxes, but suppose I failed to secure the queen of the second lot as darkness intervened before I had finished. Finding it impossible to carry both boxes on my back (as the lower one got jarred against the saddle) I carried one under my chin, and a lively

but fortunately uneventful ride I had coming home. It was pitch dark and I could see nothing of the road except a small patch in front which my lamp showed, I was also half afraid lest one of the boxes should get loose or open, and I should get a second edition of what I had had whilst driving them.

However, I arrived home safely, and next day hived the bees on frames of sealed honey and foundation, one stock each side of a Wells hive, but united them a few days after finding that there was only one queen. When examining them later I found two frames covered with hatching brood, and the foundation had been drawn out, syrup stored and sealed over.

This I consider satisfactory for a beginner this year.—D'ARDS.

JOHN HUCKLE TESTIMONIAL FUND.

The following additional sums have been received or promised:—

Amount already acknowledged	£49	2	6
Jno. Palmer	0	5	0
H. O. W....	0	5	0
J. Noble-Bower	0	5	0
H. Lauder	0	2	6
A. Hamer	0	2	0
J. North	0	1	0
Total	50	3	0

We shall next week refer to above, and give particulars as to the disposal of the amount contributed.

Echoes from the Hives.

Ealing Road, South Ealing, October 23rd.—I have had a poor season this year, as I only got about 120 poor sections and two hundredweight of honey (I think too dark to sell) out of twenty-eight hives, and not one swarm. Glad to hear that our friends in the North have had such a good season, and I hope that Dame Fortune will pay us a visit next silent, as bee-keepers round here are very silent, and I fear that they have not done any better I have.—E. BASLEY.

Honey Cott, Weston, Leamington, October 28th.—During the last month we have had many nice days, so that bees have been able to gather some pollen, also a little honey from the ivy. In one of the "Wells" hives that lost its queen, and where I shook bees from the combs to the other side, I removed the dummy and found every hole entirely propolised up. I put in a fresh one with holes a little larger, and then lifted the bees and combs of a driven stock into the empty part of this same "Wells" hive, previously placed alongside of it for that purpose. I gave both lots a bottle of syrup, so that they might rejoice together. Now that the long evenings are coming on I must make a few extra bee-things that are likely to be wanted if all is well another season. Glad to hear from Mr. Grimshaw again, also to see that Mr. J. M. Hooker has returned safe from his American trip.—JOHN WALTON.

Queries and Replies.

[907.] *Transferring Bees and Combs.*—1. I have the promise of a frame hive full of bees and honey, and wish to remove them from the hive they are in (which is worn out) into a good one I have empty. But these frames are of a bygone pattern, and would probably not fit my hive properly, if at all. Is it too late now to cut the combs out of the frames they are in, and tie them into my own? Three of my hives are still busy, some finishing sections, others drawing out comb foundation; but is it safe to reckon on another three or four weeks when they would be able to find the requisite material for fixing the combs? 2. The new-comers will want a new queen; will it be better to leave both operations until spring, and if so, when would be the likeliest time to find the nest devoid of brood? 3. I observe a bee-keeper asking for drone-comb foundation for his section crates. The idea commends itself to me. It is always a treat to meet with a section of drone-cell honey, made when the bees could not afford to go into much detail, and give us more honey and less wax. Is there any reason why the drone-cell foundation, therefore, should not be a good plan to adopt? 4. We were interested in De Quincey's odd ideas about soot and honey—ourselves having been equally puzzled by the bees' evident predilection for mud. For several years we have noticed quantities of them on the moist, muddy margin of cattle ponds, never sipping the clean water, but sucking something out of the very dirty mud—what can it be? Soot that has been a long time in a chimney is sometimes exceedingly sticky. Still, I never saw black propolis, although an approach to mud-colour in it is frequent enough. 5. I observed drones being expelled from one of my hives lately. Is not that exceptionally late?—GRANNIE, *October 24th*, 1893.

REPLY.—1. If the transferring was done on a fine, warm day, the bees will, in forty-eight hours, secure the combs so firmly that the tapes used in tying in may be removed. 2. Why do you suppose the bees "will want a new queen?" If the hive is now full of bees, we should preserve its present queen as being a good one. 3. Drone foundation can be had from any dealer. 4. The bees were merely abstracting moisture from the wet mud, none of which latter they would carry away. 5. Yes, the end of October is very late for drones, and you may suspect

something wrong with the hive in which they have been so long tolerated.

[908.] *Transferring Combs from Frame Hives to Boxes—Separating Honey from Wax.*—I think of introducing into my apiary, which consists of nine stocks, a modification of the flat-top skep system; but, instead of using the round straw skep, I want to make square wooden ones, so that I shall be able, early in the spring, to transfer the frames from the existing bar-frame hives. I then think of using shallow frames on the top of each box, and not disturbing the brood nest for honey-taking purposes. 1. Will you kindly give me your opinion on the same, also what thickness wood I shall require for the boxes, as I wish to make them with single walls? I also have some honey in comb which is too thick to run; it was all right when taken, but I was not able to attend to it at the time. I have broken up the combs and put them in cloth over pan. 2. Is there any means I could adopt for making same thin enough to run?—E. H. TAYLOR, *Winchester*.

REPLY.—1. We see no advantage whatever to be gained by going to the trouble of making boxes to take the frames of hives you already possess. If shallow frames are used in surplus chambers above the brood nest, the combs of the latter may be left as severely alone as the bee-keeper chooses, just as much so as if fixed and immovable in a box. To our mind, the plan you propose has no advantages—in fact, nothing to commend it in any way. 2. If the combs and honey are made sufficiently hot by immersing the vessel containing them in hot water till the wax melts, it will rise to the top, and can be lifted off the honey in a cake when cold.

[909.] *Bees and Plane-trees.*—Referring to your reply to my second query in your issue of 26th October (906, p. 431), when I wrote "plane-tree," I had in my mind those trees which shed their bark and are often planted in towns (on the Thames Embankment are examples). They belong, I believe, to the family of *Platanus*, and not to that of *Acer*, to which the sycamore belongs. This year they are full of seed, which makes me ask whether they are of any value to bees?—T. B., *Middlesex*.

REPLY.—The tree concerning which you ask for information is of no value to bees as a honey-producing source.

[910.] *Re-queening Hives.*—I have twenty bar-frame hives which have not swarmed this year, and this has entirely deranged my plan of operation, as I should liked to have re-queened some at least of my stock, had I obtained a swarm, and been enabled to form nuclei. Will you kindly advise me for the ensuing summer how to proceed, as my hives are full of bees, with plenty of stores for wintering and very possibly will swarm early.—WESSEX SAXON.

REPLY.—We should advise no further steps beyond noting such stocks as have failing queens (as evidenced by their limited breeding) in early summer, and saving the surplus queens from the first stocks which swarm for replacing these as was intended this year.

ANOTHER NOVEL NON-SWARMING IDEA.

(*Concluded from page* 422.)

"The most serious objection to the self-hiver, as I had it, was that it interferes considerably with the ventilation of the hive. My hives have ample entrances. The zinc between the hive and hiver was of large size (4 × 8 inches), with a space behind; and I thought that it would be sufficient. The trouble is that in hot days some of the workers, and whatever drones are in the hives, cluster on the zinc and cone, and thereby obstruct the holes, and not only interfere with the ventilation, but also with the going and coming of the honey-gatherers. The drones live in the hive several days, being fed there by the workers. This particularity may sometimes be turned to advantage. They can be easily destroyed, except those that may be wanted for fertilisation of young queens. When the queens are out, the front zinc of the hiver can be removed, and the select drones permitted to come out. Closing the cone will effectually prevent the loss of a swarm while the front zinc is open.

"About June 25th, some of the colonies were so large, and the weather so hot, that I had to remove most of the zincs (between the hive and hivers) to ensure better ventilation. I left the zincs in front of the hivers. Even thus reduced, the hiver was yet very useful, as no swarm could go off. As a general rule, any swarm going out and returning will try again very early the next day, if the weather is favourable. As a returning swarm hangs more or less outside the hiver for an hour or two after returning, by visiting the apiary between 10 a.m. and 12 o'clock, the apiarist can tell which hives have swarmed and need attention.

"After this experience, I doubt very much if the Langdon and Atkin devices to prevent swarming will work satisfactorily. I can only repeat what I said before, that it depends upon the circumstances; as to work always, I doubt it. The change from one hive to another where the bees are equally crowded could not abate the swarming fever. Mine swarmed from the hiver as well as they did from the old hive.

"The revolving stand of B. Taylor was also a failure. The destruction of the queen-cells by the queens cannot do any more good than when done by the apiarist. It seems very difficult to prevent the swarming fever entirely. We can give plenty empty room, but not plenty empty comb, as those who produce extracted honey do. Non-swarming colonies got to be very strong, and therefore more or less crowded.

"Summing up, I see three points which conform to the teachings of our leading writers, viz.:—

"First, the impossibility of preventing the swarming fever entirely when producing comb

honey. Of course, the actual swarming could be prevented.

"Second, as long as the swarming fever lasts the colony is 'no good,' so far as gathering surplus is concerned.

"Third, the only ways to overcome the swarming fever are these:—

"*a.* Allowing swarming or an equivalent, dividing. That is what Doolittle, Hutchinson, Heddon, &c., are doing. To obtain a surplus they turn over to the swarm as much of the old force as possible, and whatever surplus is gathered already. This does not work very well here, for reasons that I will explain some other time. The old colony—well, I don't know, but by their reports I suppose that most of the time the old colony is so weak that it dies the following winter or spring.

"*b.* Removing the queen and cells, and not returning the queen (or another one) until the colony has been hopelessly queenless for some time. This is practised by our most extensive and most successful comb-honey producers, such as Manum, Hetherington, Elwood, &c.

"This will be my next year's experiment. As a help similar to the self-hiver, I want to try the following arrangement:—

"Have the hive so constructed that the entrance can lead either to the brood nest or to the supers. Add to the hive, or rather to the brood nest, a cone giving the necessary ventilation and permitting the bees to come out, but not to go back. At the opening of the honey-flow close the brood nest, place a solid board between the brood nest and the supers, so as to cut off entirely the communication between the two, and fix the entrance so as to send the whole force into the supers. Of course, the bees in the supers having neither queen nor brood will be hopelessly queenless and give up (?) any notion to swarm they may have. (Perhaps they will, and perhaps they won't.) The queen in the brood nest with only young bees will destroy whatever queen-cells may be started. Three or four days later the board between the supers and brood nest can be removed, and the usual brood-nest entrance opened again. The operation can be repeated again during the honey-flow, whenever swarming may occur.

"I will let you know in a year from now whether the above scheme will work or not. At any rate, I think if it fails as a non-swarmer, it will be splendid to start work in the sections, and could also be used in lieu of contracting the brood nest, if this is desired at the end of the season.—*Knoxville, Tenn., July 10th*, 1893."

[Concerning the above, which appears in the *B.K. Review*, the editor makes the following observations.—EDS. *B. J.*]

"As to what becomes of the old colony when it is robbed of what surplus it may have on hand at the time it swarms, also robbed of its flying bees for the first week after swarming, I will say that it usually proves to be the best possible kind of a colony the next season. It has a young queen, and it goes on and raises enough bees for winter; besides this, if it has swarmed early, it sometimes furnishes some surplus besides. If either of the two are likely to succumb, it is the swarm with its old queen and contracted brood nest. It must be given more combs in the brood nest as soon as the white honey harvest is over, and fed a little if there is no honey-flow, or else it must be united with some other colony. I have reference to cases where *severe* contraction is practised—where only four or five Langstroth combs or their equivalent are allowed in the brood nest at the time of hiving.

"The idea of throwing the working force into the *supers*, instead of into another hive, is certainly novel, and just how it would work is difficult to foresee. I honestly believe that one thing will lead on to another until the prevention of swarming will eventually become practical and profitable."

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. J. RICE (Norwich).—Honey sent is, in our opinion, perfectly pure, and your customer should be made to understand that granulation is a sign of purity.

EDWIN GRIFFIN (Upton-on-Severn).—*Patent Hives.*—1. Before alarming yourself as to the legal consequences of copying, for your own use, a "patent beehive" purchased, would it not be well to inquire if there are any patent rights on the hive in question? If you give us its title, we may help you in deciding this point. 2. Excluder zinc is not absolutely necessary below section racks. 3. The bees should have from fifteen to twenty pounds of food in the combs at end of October to winter safely. Give a cake of soft candy, to make sure of supplies. 4. You cannot make a workable hive to hold four stocks, as proposed. 5. The text of any Act of Parliament may be obtained through a local bookseller.

BEE-MAN (Carnforth).—*Granulated Honey.*—What you term "little lumps" in the honey cells of comb sent are simply granules of honey, which is beginning to crystallise.

PERCY LEIGH.—*Samples of Honey.*—(*a*) A good granulated honey in all respects. (*b*) Is inclined to fermentation, not very good in flavour or aroma. (*c*) Poor in flavour and aroma. Has many of the peculiar characteristics of the honey gathered in some districts this season during July and August.

THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BEE-CULTURE IN THE UNITED KINGDOM.

Presentation to the Lord Mayor of London.

For the purpose of presenting to the Lord Mayor a gift of British honey, a deputation, representative of the British Bee-keepers' Association and its affiliated Associations, waited upon his Lordship and the Lady Mayoress at the Mansion House on the 1st instant. In the absence of the President (the Baroness Burdett-Coutts) and of the Chairman of the Executive (Mr. T. W. Cowan), the duty of asking his Lordship's acceptance of a small representative collection of British honey, which was contributed by counties in England, Scotland, Wales, and Ireland, weighing one hundredweight, devolved upon Sir James Whitehead, who is a Vice-President of the Association. Supporting Sir James were the Lord Mayor-elect (Alderman Tyler), Sir R. Hanson, Bart., M.P., the Hon. and Rev. H. Bligh, Mr. J. M. Hooker, Mr. H. Jonas, Mr. J. Garratt, Mr. W. Broughton Carr, Mr. E. D. Till, Mr. F. H. Meggy, and Mr. A. D. Woodley. The ceremony took place in the state drawing-room, and the honey, which was partly in the comb and partly in jars, each of the latter bearing a label to indicate the county where it was produced, was displayed on a table in the centre of the room.

Sir J. Whitehead, observing that the quantity of honey they offered for the Lord Mayor's acceptance was that which might, under fair conditions, be looked upon as the net result of one hive worked on the improved modern method, explained that his connexion with the Association arose from the fact that he was Past Master of the Fruiterers' Company, had taken a very great interest in the cultivation of fruit in this country, and all experts in fruit-culture seemed to think that bees were essential for the fertilisation of the flowers. In making this offering the Association sought to bring the influence of the Mansion House—which was always exerted for the promotion of the prosperity and welfare of the people—into play for the advancement of the objects of the Association. Could bee-culture be made to pay? They were aware that they had to contend against the products of New Zealand and California, especially that of the colony. The net profit to be derived from the cultivation of honey depended on the successful treatment of bees, and the object of the Association was to impart the knowledge of the cultivation of bees, and possibly to re-create the industry. So far they had been very much encouraged, and it would not be difficult for him to give hundreds of examples showing how successful bee-culture had been in this country. That morning a letter was placed in his hands from a sheep-farmer in Kent, living near Farningham. He was entirely unskilled in the cultivation of bees, but the results that he had obtained so far had been so eminently successful that it ought to be an encouragement to others to follow in his footsteps. He had only two hives, which were stocked last autumn, and one had produced no less than 142 pounds of honey, and the second sixty-four pounds, giving an average of 103 pounds for each hive; and if they assumed, for the sake of ascertaining whether bee-cultivation was profitable, that he was able to dispose of it at 9*d.* per pound—a reasonable price—he would have a net result of 7*l.* 14*s.* 6*d.* In connexion with the County Council lectures at Swanley last year, two boys who had distinguished themselves were each presented with a hive. One derived from his hive no less than seventy-one pounds of honey, which he sold for 3*l.*, and, after deducting 17*s.* expenses, had a net profit of 2*l.* 3*s.* He had in his own knowledge a case in his native county of Westmoreland, where a small tradesman had eighty hives. During the spring and summer, when the flowers in the fields were in bloom, and up to the time when the bees had swarmed and made their casts, he kept them in the valleys, and afterwards took them to the moors, where they could gather honey from the heather, and the result of the eighty hives, after paying all expenses, was a net profit of 1*l.* 5*s.* per hive, or 100*l.* The county of Kent had in some respects been taken as a typical county of what might be done with regard to this culture, and it was estimated that there alone no less than 400 tons of honey could be grown, provided that those who had hives were sufficiently skilled in the art of cultivation. That 400 tons, sold at 9*d.* a pound, would give to that county alone no less than 33,600*l.* Kent was not an exceptionally good county for bee-culture, for he was told that there were counties in the West of England, some of the valleys of Wales, the northern counties, and Scotland, where heather was

grown, and even in Ireland, where honey could be produced in even larger quantities. It being the purpose of the Association to popularise the movement, and thus to create a new industry that would be of immense benefit to small farmers and cottagers, they waited upon his Lordship in the full confidence that the expression by him of a favourable opinion would greatly promote the object they had in view. In conclusion, Sir James thanked his Lordship for receiving them, and also, in the name of the Association, congratulated him on the success of the year, at the same time expressing the earnest hope that both the Lady Mayoress and himself would be blessed with the health and strength they needed to enable them to enjoy the retirement which they had so thoroughly earned.

The Lord Mayor, who was heartily received, expressed, in a few preliminary words, the pleasure it afforded him to see, as the spokesman of the Association, Sir James Whitehead, from whose earnest efforts to promote fruit-culture so much good had resulted. Passing on to acknowledge the gift, his Lordship said he cordially agreed with the Association that it was of the highest importance that every encouragement possible should be given to the development of our own industries, especially those concerned with our farms and cottage homesteads. Such efforts as were made by the Association must, he felt sure, be crowned with success if only Englishmen were true to themselves, and did what in them lay to forward objects which were legitimately their own. Personally, he regretted exceedingly the falling away there had been as regards bee-culture. Not many years ago there was not a single cottage in his own native county of Herefordshire which did not possess its hive, from which a very handsome profit was annually derived. Now the hives were few and far between, though as a matter of fact there was greater reason than ever for paying attention to bee-culture. Only this summer at an agricultural exhibition at Coblentz he saw several hives which, according to their owner, had been most successful. To his surprise he found there that bee-culture had become so much a science that the bees themselves were the means of informing the owner when they were about to swarm. The apparatus was worked on electrical lines. When the bees commenced to swarm, a tell-tale in the owner's house two miles off indicated the number of the hive concerned. He quoted that to show the progress that had already been made. A reference to the Corporation as the working bees, with the Lord Mayor as the queen, followed, and then, having thanked Sir James for his personal compliments and the Association for their splendid gift, his Lordship expressed the hope that success would attend the Association in their good work, and the belief that they would ever receive at the hands of the Chief Magistrate, whoever he might be, all the support he could possibly afford them.

The deputation were subsequently entertained by the Lord Mayor at luncheon.

Referring to the foregoing, the *Pall Mall Gazette* in a leaderette says:—

"The presentation of honey to the Lord Mayor yesterday afternoon was a very notable and innocent achievement in advertising. Neither Sir James Whitehead nor those who supported him disguised the fact that the ulterior design was to direct attention to the most neglected of English industries. Their aim was to publish abroad the news that every poor labourer and striving agriculturist has at his door the means of adding to his scanty income, and at the same time providing the public with a wholesome article of diet. Hither the knowledge of the great advance made in bee-culture has been hidden away in bee journals such as only experts read. But this graceful act will bring the truth home to many who have never thought of the matter. The British housekeeper also needs to be apprised of the fact that there is a mighty difference between foreign and English honey, and that our own product is unsurpassed in quality—thanks, mainly, to the abundance of white clover on our pastures. The average purchaser of honey does not know this, and pays as willingly for cheap Californian as for the best Kent, Wilts, or Berkshire honey. For that we must blame the English bee-keeper. He has not sufficiently guarded his reputation."

COUNTY ASSOCIATIONS AND THE PRESENTATION AT THE MANSION HOUSE.

The very cordial reception afforded to the deputation of bee-keepers, who, on behalf of the B.B.K.A. and its affiliated Associations, waited on the Lord Mayor on the 1st inst. for the purpose of offering to his Lordship a small representative collection of British honey, will, we think, be productive of much good to the industry which our bee associations are established to promote.

Full particulars of the presentation being given in the preceding article, we may add that the honey was of excellent quality, looked exceedingly well, and was tastily arranged in pyramidal form. The quantity (one hundredweight) was suggestive, as being the amount of honey which had this season been, in very many instances, taken from a single hive, and it caused no little astonishment among those present who were unacquainted with bee-keeping to think that such a result was possible.

So much from the bee-keepers' point of view; but we desire to draw the attention of our county associations to the publicity gained by the "interesting ceremony" referred to. Nearly every paper in London on the 2nd inst. had more or less prominent notices of the affair, the *Standard* devoting two full columns of space, including a leading article of over a column in length, to it. A brief extract from the latter may be interesting. It says:—

"Of late years great advances have been made, not only in the more general cultivation of that branch of *petite culture* involved in bee-

keeping, but in the best way of inducing the insects to collect the honey, and, finally in depriving them of it. For this good work the Association of which the Baroness Burdett-Coutts is the official head deserves all praise. It and the local societies with which it is in union have performed quietly, without self-advertisement or any of the customary fanfaronade of the saviours of agriculture, a valuable service to British rural economy. Wherever there are honey-bearing flowers, there the bee can live, prosper, and lay up a store for its master. And as no part of the country is deficient in these, bee-keeping may be all but universal. Nor need the cost be great. The capital on a small scale is trifling, and a very slight amount of instruction, especially if that instruction is of the best kind, suffices to make the least intelligent quite capable of gaining more by experience. Hives take up little space, demand for the most of the year little care, and the stock, unlike any other stock in this country, trespass on anybody's land without the owner having either the power or the will to forbid them. The Rectory garden or the Squire's park is alike open to the *Apis mellifica*. It poaches on either with the same impunity. In summer it ranges the clover-fields and the lime-woods, and if its guardian does not take it for a few weeks' feeding on the moors, the chances are that it will discover for itself any heather patch which is reachable between sunrise and sunset. Yet, in spite of its industry, the British bee is unequal to the drafts upon its output. For the import of foreign honey is yearly on the increase."

As may be inferred from the above, there is, no doubt, a *business* aspect to the question, and, as already said, we invite the attention of our county associations to this particular "aspect" as being a legitimate one for their prompt attention. Bee associations are (alas!) not money-making concerns; they work largely for the common good, and the question of obtaining financial support to enable them to carry on their work efficiently is one which should be plainly put before those who, either by profession or conviction, claim to have so much at heart the welfare of our humbler rural population. It is as certain as the sun shines that, if funds were forthcoming, our Associations could do much more than at present is possible in teaching the rural labourer how to keep his bees well and sell his honey when the bees have gathered it. This is now done, so far as means allow, by Associations asking for no return in the way of profit-sharing, but instead, rendering all the help they can to their cottager members for a subscription so small as to leave nothing for working expenses. Surely there are sound reasons, then, in asking for the support of all who are favourably disposed to that class whose limited incomes so sadly need augmenting; and we think that if the executive committees of county associations will but strike while the iron is hot, and, by means of their local papers, secure a little of the publicity for the bee-keeping cause which has been done in the metropolis, it cannot but be productive of good by drawing the attention of the wealthier classes to the importance of fostering a humble but valuable rural industry, seeing that the aim and object of bee associations is to develop a hitherto neglected source of income from the land.

BRITISH BEE-KEEPERS' ASSOCIATION.

The Conversazione.

(*Concluded from page* 434.)

The Chairman exhibited a contrivance made for the purpose of taking swarms from trees. He had seen the appliance in use at Mr. McKnight's, of Owen Sound, Canada, where it acted very successfully.* The Chairman also referred to the British exhibit at the World's Fair, Chicago, which he said was very creditable and was much admired by the American bee-keepers, and he thought the B.B.K.A. had every reason to be proud of it. It was in charge of the Superintendent of the Agricultural Department, British Section.

Mr. Carr drew attention to the fact that the Committee of the B.B.K.A. had been asked, through the *Journal*, to express an opinion as to the advisability or otherwise of using wider metal ends on frames in order to secure thicker and heavier combs in surplus chambers; and a manufacturer was waiting to hear the views of the Association before placing such "ends" on the market. It was well known, in working for extracted honey, how advantageous it was to have a thick and heavy comb, and the question arose whether the width of the top bar and of the frame generally should be increased to an inch and a half, using a metal end with a quarter-inch shoulder, as is the case now, or whether the ordinary width of top bar and frame should be adhered to, with a half-inch shoulder to the metal end. He produced specimens of both patterns—as furnished to him by the maker—for inspection. He himself advocated the retention of the present dimensions of the shallow frame for surplus, and using an "end" with a half-inch shoulder, so that eight frames would fill the same as ten spaced as they now are. The advantages of retaining the present narrow or "Standard" top bar and sides

* The contrivance was described some years ago in the *B. J.* by Mr. Cowan as having been seen by him when on a visit to Mr. McKnight, in Canada. For the benefit of present readers we copy the description there given:—"When visiting Mr. McKnight, at Owen Sound, in Canada, he showed us a very simple and ingenious device he used for taking swarms from trees. This consists of a stick, the end of which for about eighteen inches is planed, six-sided pieces of lath are cut in lengths varying from six to ten inches, and are nailed at right angles to the stick on the six sides. Close against the stick these laths touch each other, but, from the fact of there being six sides to which the laths are nailed, the ends are from three to four inches from one another. About a foot of the end of the stick is furnished with these laths, and at the other end there is a ferrule, by means of which the stick can be fixed to a pole. When the cluster has partly settled, the bristly end of this pole is pushed in among the bees, which cluster on and between the laths, and can be brought down and shaken off. In this way Mr. McKnight told us he had never failed to secure a swarm."

were obvious, because, if the bee-keeper had his frames spaced with the two-inch "end" and the honey-flow fell off, he would have a much better chance of getting the combs completed by reducing them to the one-and-a-half-inch distance, which he could easily do. But the wide top bar and frame would not allow of this. Besides, the fact of the comb extending beyond the frame was helpful to the operator in allowing the free use of the knife over uneven surfaces when uncapping combs. To illustrate this, Mr. Carr exhibited one of his own shallow frames—built out with completely sealed comb —nearly two inches thick and weighing over six pounds. He stated that for many years he had inserted blocks of wood between the shoulders of the metal ends in order to get these thick combs, and an "end" of the proposed size would lessen the trouble now caused through this makeshift plan of widening the combs.

Mr. Garratt did not share that view. He thought uncapping could be better performed with a wide frame, which acted as a guide for the knife. He had frames nearly two inches wide all round, in which combs were built and honey had been stored every year for the last six years. They were so spaced that the bees just built to the face of the frame. No doubt preferences often arose from prepossessions, but he certainly thought the wide bar easier for uncapping purposes. Mr. Carr had no doubt uncapped and extracted hundreds of combs, but his was a skilful hand. He (Mr. Garratt) thought that many bee-keepers would damage their combs inevitably at starting with the narrow bar.

The debate then became more or less conversational, Mr. Carr begging that the meeting would give a recommendation in favour of one or the other style; the Chairman pointing out that he thought there was no necessity for them to express any opinion about the "metal ends," but simply on the merits of the narrow or wide frames; to which Mr. Carr replied that they should take the question as raised in the columns of the *Journal*, which referred simply to the width of the metal ends.

Mr. Till and the Chairman further discussed the matter, and Mr. Garratt considered that the meeting was not called upon to pronounce any opinion. The two-inch-wide frame answered admirably; it entirely protected the comb, and made the extraction of honey safer in unskilful hands; but the matter was comparatively unimportant.

The following resolution was then put and carried almost unanimously:—"That, in the opinion of the majority present at this meeting, it is advantageous to work for combs of two inches width in shallow frames, but that no alteration of the recognised width of the top bar or other parts of the standard frame is desirable."

This was followed by a discussion as to the merits or demerits of a new form of excluder zinc, which Mr. Carr exhibited as the invention of a bee-keeper who had given much thought to the subject, and who claimed that it prevented propolisation, and was easily lifted off the frames. It was so constructed that in perforating the metal was not cut right out, but only on three sides, and then bent down at right angles from the holes, the tongue-like pieces resting on the top bars, offering easy climbing foothold for the bees into the surplus chambers. He (Mr. Carr) did not express any particular opinion on the invention, but nevertheless would like to see it taken up for trial.

The specimen was handed round and examined, Messrs. Till and Garratt, the Chairman, and others commenting thereon. Eventually the matter was left over for further trial.

The Chairman exhibited a new and ingenious dovetailed joint used in America, which was also examined with approval, and the proceedings terminated with the usual vote of thanks.

JOHN HUCKLE TESTIMONIAL FUND.

Since our announcement of last week, when the subscription list to the above fund was supposed to be closed, we have received the following sums:—

	s.	d.
J. M. Hooker	5	0
W. Sells..	5	0
"Old Tom Sells"	5	0

making the total amount received through this office, 50*l.* 18*s.*

The sub-committee appointed to act in conjunction with the local committee at Kings Langley on behalf of Mr. Huckle's bee-keeping friends have not yet met to decide as to the disposal of the above sum, but it is more than probable that a cheque for the amount will be sent to the Committee at Kings Langley to be presented to Mr. Huckle along with the sum collected in the district, which we believe amounts to about 105*l.*, making a total sum of 155*l.* 18*s.*

The presentation will take place on Nov. 24th, on the occasion of the Kings Langley Cricket Club Dinner, which is the great function of the year in the village.

We are sure that all will rejoice that so substantial a token of the esteem in which Mr. Huckle is regarded by his neighbours and friends should have been raised, and it only remains for us to thank those who have contributed to it through our columns.

CRANLEIGH AND DISTRICT BEE CLUB.

The autumn show of the above Club was held on Wednesday, October 25th, in connexion with the Cranleigh Agricultural Show. There were fifty-three entries in the nine classes. Captain Campbell, R.N., acted as Judge, and his awards were as follows:—

Best twelve sections: 1st, G. Knight; 2nd, H. Steadman. Six sections: 1st, Mrs. Maclear; 2nd, G. Knight; 3rd, G. Leadbitter. Single section: 1st, G. Knight; 2nd, Mrs. Maclear

3rd, G. Leadbitter. Six one-pound jars: 1st, W. Charman; 2nd, G. Farnfield; 3rd, H. Ketcher. Single one-pound jar: 1st, H. Ketcher; 2nd, W. Killick; 3rd, G. Knight. Bar-frame of honey: 1st, H. Ketcher; 2nd, J. Perris; 3rd, H. Steadman. Super of honey: 1st, G. Knight. One pound of wax: 1st, J. Charlwood. One pound of candy: 1st, Miss Haynes.

Considering this is the second show the Club has held this year and its also being the first year of its existence, it was a first-class display, and much taste was displayed in the get-up of the exhibits.—J. C. C., *Secretary.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, 'British Bee Journal' *Office,* 17 *King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

DIALYSIS OF HONEY.

[1617.] The report of Th. Weigle, of Nuremberg, on "The Dialytic Examination of Honey," presented at Lindau and Bodensee, August, 1893, at the annual meeting of the Association of Bavarian representatives of applied chemistry.

Weigle concludes, from numerous experiments conducted in an apparatus made in Strasburg, precisely according to Haenle's instructions, with careful observation of the conditions given by the latter in his book, that the dialytic examination of honey is only applicable in cases in which there has been considerable adulteration with impure starch syrup (glucose); even then only when the absence of coniferous honey is assured, as this behaves dialytically in essentially the same manner as honey adulterated with impure starch syrup.

Additions of cane sugar or invert sugar, as they occur at present in the market under the names of "fruit sugar" (*Frucht zucker*), or honey sugar (*Zucker honig*) are not to be detected by dialysis.

A quantitative determination by dialysis of the extent of the adulteration with impure starch syrup is, according to the experiments of Weigle, quite impracticable.

Weigle concludes that the dialytic process does not, under any conditions, possess any such decided significance as attributed to it by Haenle—a view which was unanimously joined in by the Association.—From the *Chemiker Zeitung.*

My son, Dr. Samuel C. Hooker, called my attention to the above during my visit to America, and kindly translated it for me that I might send the same to the *Bee Journal,* knowing that considerable interest has been taken in Dr. Haenle's dialytic process.—John M. Hooker.

[We are much obliged to our esteemed friend for sending us a translation from the *Chemiker Zeitung,* as it is a matter that is occupying considerable attention at the present moment; but we can hardly allow the above to appear without a few words of comment, as it is likely to lead some to suppose that there is no value in dialysis. Having ourselves visited Dr. Haenle's laboratory in Strasburg, we were there perfectly convinced, from experiments carried out in our presence and with samples of honey purposely adulterated, that dialysis is a valuable addition to our method of detecting adulteration. So convinced were we of the value of the process that we have fitted up all the necessary appliances, and are at the present moment engaged in carrying out experiments which promise to entirely corroborate all Dr. Haenle's claims for his process. Instead of its being appreciable only where there has been considerable adulteration with starch syrup (glucose), an adulteration of five per cent. has been detected, although Dr. Haenle does not claim that by dialysis a quantitative determination can be arrived at. What he does claim is that an approximate determination can be arrived at, so as to decide whether the product is adulterated or not, and to about what extent. As honey, if adulterated at all, will have more than five per cent. of glucose added to make it worth the while to adulterate, being able to detect five per cent. is quite near enough for any bee-keeper or analyst. Then, as to this being only possible when the absence of coniferous honey is assured, as this behaves the sames as adulterated honey, it strikes us that Mr. Weigle has not carried his experiments far enough, or he would have found that whereas adulterated honey turned a ray of light to the right both before and after dialysis, coniferous honey before dialysis turned it to the left; after dialysis of seventeen hours, the polarisation was −0, showing that it differed from adulterated honey, and that it could be detected from such. What is more, coniferous honey mixed with glucose can be detected, as, after dialysis any length of time, the polariscope will always show a right-handed deviation, and will never reach 0. We would also say that additions of cane sugar or invert sugar, under the name of "fruit sugar," are detected in the same manner, and we think that the process promises to have all the significance attributed to it by Dr. Haenle. Bearing in mind the simplicity of the process, the low cost at which the analysis can be carried out, and the rapidity with which a determination can be arrived at, we are not surprised at the opposition to the method. We shall hope during the winter to be able to report our visit to Dr. Haenle's laboratory and the experiments carried out there, and to supplement them with analyses carried out by ourselves on the same plan.—Eds.]

NOTES BY THE WAY.

[1618.] In the month of November comment on the weather seems needless in relation to outdoor apiarian work; therefore we will turn our thoughts to the indoor part of the business and the general success of the craft. To-day is "Lord Mayor's Day" and our future King's birthday, both notable events, but possibly of little aid or interest to bee-keeping in the estimation of many; yet, in relation to the former event, it is more than probable that "British honey" will grace the banqueting-tables of the Lord Mayor this year, if it never has done so before. The British bee-keepers were well to the fore on Wednesday, November 1st, with a present of honey to the Lord Mayor of London, and in Thursday's (November 2nd) *Standard* there is a leading article on the presentation in particular and on bee-keeping in general which will arouse interest in bee-keeping, I have no doubt, and bring it to the notice of many who would otherwise remain in total ignorance of the work of the Association.

Dishonest Exhibiting.—I don't think Mr. Hill's *device* of indelibly stamping each section would work unless the mark was covered by a strip of paper pasted over it; then, in case of honey being purchased privately, with the intention of exhibiting said honey later on in the season, the marks could be removed, unless printed very deeply with a penetrating fluid. Then the county stamp. Take "Berks." What is to prevent a person from buying the best exhibits at a show, and exhibiting those same exhibits as his own production at some future show in the same county, or in any other county show in the open classes? I am sure all honest bee-keepers will be glad if some means can be devised to prevent dishonest parties masquerading in borrowed plumes. What do Mr. Hill and others think of the following clause to be added to entry forms:—

"I, the undersigned (or, perhaps, the more emphatic declaration, I, Wm. Woodley), hereby declare that the honey and wax in the above entries are the production of my own bees in my own apiary, and have not been purchased from any other bee-keeper or source whatsoever.

"Witness my hand this 9th day of November, 1893. WILLIAM WOODLEY."

And for a breach of faith a forfeit of the exhibit or exhibits and all awards, also disqualification for a period of not less than three years, said action of a committee to be published in *B. B. J.* and *Record*.

No honest exhibitor would, I think, object to this declaration, from the fact that his honesty was thereby being safeguarded, while the unjust only would be punished. Perhaps others will discuss the question, and let us, if possible, find some deterrent to the wrong-doer.

I am convinced that some strains of bees use a great deal more propolis than others, and that the same strains of bees located in different places collect and use more propolis in one place than in others. Possibly this may explain why some "Wells" dummies are propolised and others not.

The continued efforts of the bees to close the holes of communication between the colonies while amicable work goes on in the super above points to the future use of non-perforated dummies.

Rather Personal.—No one connected with the craft deplores more than myself the falling-off in the number of the large exhibits at the Dairy Show, but I fear that, another year, it will not improve unless the restrictions *re* the number of entries is removed, and this can only be done by the aid of the almighty dollar, as our Editors observe—though, perhaps, if I retire from the scene of action, things may look up in the shape of quantity.

I notice that Mr. Neve (1612, p. 438) terms me a "pro." Well, thanks, friend Neve; I accept it in humility. If I am a "pro." now, I was also a "pro." when I attended and exhibited at South Kensington, some ten or twelve years ago. Then I took first prize when I farmed only three or four bar-frame hives; and in the intervening years I have held my own in many parts of the kingdom with an increased number of hives. I don't say it with any egotism, but in other pursuits I have had the same luck (?). At a local horticultural show I took sixteen prizes with fifteen exhibits (many firsts), being awarded an extra prize for taking more than any other exhibitor, all said exhibits being grown in an eighth of an acre, part of which ground was covered by cottage and outhouse and an apiary of twelve or thirteen hives. Pardon this digression, Messrs. Editors; now let us return to the Dairy Show.

There is no restriction to the number of exhibits one exhibitor can make, and nothing in the rules relating to the purchase of honey for exhibiting. To my mind, it is simply a show of honey—no endeavour by the Dairy Farmers' Association to foster or encourage bee-keeping otherwise than as showing the best produce of the apiary in the largest city in the world. Regarding unlimited entries, if I had felt inclined, I could have made as many entries as there are prizes in each class, and won the whole of the prizes if my exhibits had been the best. Take an example: the Cathedral Dairy Company last year (1892) made six entries, and took both first and second prizes in Class 65 (for granulated honey). Then London firms, such as Reynolds & Co., Borough, and L. Noel, of Soho Square, made entries as follows:—The first in all classes, and the last-named in three classes. Now, all three firms mentioned above are probably larger honey-purchasers than they are honey-producers. Now, will any one say that in this show the honey classes ought to be devoted to honey-producers exclusively? No; certainly not. This show is on different lines altogether from honey shows that are for the encouragement of county bee-keeping. This show, I take it, is like an exchange, where the producer meets the merchant or purchaser of his produce—not only the quantity staged, but

the residue left at home. Now, right here let me say to Mr. Walton, *re* his sales, if he had offered his bottles of honey at 9*s.* or 10*s.*, they would have most probably been sold, as two or three buyers on a large scale were there purchasing the first and second days of show; but if the attendant said 12*s.* for the exhibit, that barred a sale at once. I calculate like this:—Twelve bottles of honey returned from London will cost me 1*s.* 6*d.* carriage, and if I sell to a London firm again, the dozen will want repacking and carriage again, 6*d.*, making 2*s.*; also the risk of return journey, enhanced by hurried packing at clearance of show. Now, a purchaser at the show pays me 9*s.* per dozen for them; I hand him the delivery note, and the risk is his. Then another great advantage. Your name is entered in the purchasers' list, and repeat orders come in—sometimes years afterwards.—W. WOODLEY, *World's End, Beedon, Newbury.*

THE STANDARD FRAME.

IS IT THE BEST?

[1619.] On page 432 *B. B. J.*, in answer to Wilfred Shepherd, I read, "The fact of 500 or more standard frames being used in brood chambers to-day for every single one of any other size, is very suggestive as to which is best."

Now, I have 120 standard frames, but I had these, not because they were the best, but because, knowing nothing at all about bee-keeping, I had to get what the Bee Association and their recommended guide-book told me was the best. How many more have done the same as I have? I have just obtained *A Modern Bee-farm*, by S. Simmins; he is very strongly in favour of a 16×10 frame.

On page 428 *B.B.J.*, "Phil Jones" (1603) says:—"I now have twenty large frame hives, which suit me much better than standard size, of which I have now some fifteen. . . . All large brood nests gave most surplus on the top."

I thank the Associations for the pleasure and information I have had from them, but I cannot help having an honest doubt as to the standard being the most suitable and economic size of frame. Could not the *B.B.J.* manage to get in comparative details from all those who use the standard and other sized frames in the same apiary, to be published for the benefit of beginners like myself? Unless I shortly hear good sound reasons against the larger frame, say, 16×10, I shall be making arrangements for trying them next year.

Thanking you for the insertion of a former letter, and the informatition I received—NED SWAIN, *Canterbury, October 31st.*

[We shall be very pleased to insert any "details" furnished to us for the purpose of comparison as suggested by our correspondent; but in the matter of size of frames, the Editors of this *Journal* are so thoroughly in agreement with the committee of experienced bee-keepers who, as representing the B.B.K.A., some twelve years ago discussed the subject in all its bearings, and fixed upon the present "standard," that we must decline to take part in any endeavour to stir up an agitation against it, notwithstanding that some few persons — conscientiously, no doubt—disapprove of it. In fact, so convinced are we of the immense advantage the adoption of a uniform size of frame for brood nests has been to bee-keeping, that it would require a considerable amount of "good sound reasoning" indeed to make us take one step tending to undo the good accomplished by the almost universal adoption of the "standard" in this country. We do not offer these remarks with the view of stopping discussion, nor do we object to our correspondent following the bent of his inclination as to the size of frame he should adopt. Beginners are generally prone to trying "improvements" (*we* were in the days of our noviciate), and it is, perhaps, well they should want to get on a bit faster than the older hands; but for the benefit of those who attach some value to our own views, we may say that, after having tried (and well tried, too) larger frames and smaller frames than the standard for brood nests, we have given up both for the latter.—EDS.]

BEES IN NORTH DEVON.

[1620.] It may, perhaps, interest some readers if I relate the results of four years' bee-keeping in this county, and show how cottagers and others may add to their earnings by keeping bees on the humane and economical plan instead of the cruel method handed down from generations and still very generally adopted in this neighbourhood.

I should have shown a better balance-sheet had I made my own hives or had them made locally, as I find I can get them made here on the "Wells" principle at about the price London makers charge for a single hive.

My first year I bought two swarms and put them in Neighbour's cottage hives; these both swarmed, increasing my stock to four hives. I took about fifty pounds of honey, which had I sold would have gone far towards paying for my outlay.

My second year (1891) was a very wet year, and the hives were set down in a bad place facing west. Consequently, getting no morning sun, and being under the drip of trees, I was unlucky in losing swarms. However, I had about fifty pounds of honey and increased by one stock. This was a most unfavourable year, though had I managed them better no doubt better results would have followed.

In 1892 I first head of the "Wells" hive and had two made. I moved my hives to another place facing south-east, fairly sheltered from wind and with no overhanging trees. The "Wells" hives did fairly well but the two swarms were hived about a week apart and there was a great deal of fighting, the second swarm being nearly destroyed. This year I took 170 pounds of honey, most of which I sold.

I began the season 1893 with four stocks in

Neighbour's cottage hives, and two "Wells" hives equal to four single-queen stocks. I was anxious to compare the double hives with the single ones, and the result is slightly in favour of single hives. All my honey is in one-pound sections and I only count those that are thoroughly sealed and saleable. The figures from hive (1) single, 30 pounds; (2) single, 79 pounds; (3) single, 35 pounds; (4) single, 89 pounds; total, 233 pounds. From "Wells" hive (1), 97 pounds; (2), 128 pounds; total, 225 pounds; showing an average of 57¼ pounds per stock. I had also two swarms this year which gave 64 pounds, so that my total for the year was 522 pounds of honey in sections.

My expenses up to date, *i.e.*, cost of swarms, hives, sections, and all my bee-plant amounts to 17*l.* 7*s.* 6*d.*

My takings in honey have been—in 1890, 50 pounds; 1891, 50 pounds; 1892, 170 pounds; 1893, 522 pounds. Total, 792 pounds. The majority of the honey is heather and commands 1*s.* a pound, but even taking it at 10*d.* a pound it gives the satisfactory return of 33*l.*, or deducting the cost of plant, 17*l.* 7*s.* 6*d.*, a net profit of 15*l.* 12*s.* 6*d.* in cash, besides all my bees, hives, and appliances, which are worth at least 12*l.* I do not expect again to have quite so favourable a year at 1893, but with apiary of ten stocks four years' experience and ordinary luck, I trust next year to be able to show a fair balance in my favour, and now all the principal outlay is paid for the net profits should be considerably increased.—C. S.

MIXED!

[1621.] Referring to 1602, p. 428, there are one or two points I don't quite understand. Perhaps I am a bit dense, but your correspondent, "Honesty," says he was "innocent as a child of the adulteration fraud two years ago," &c. Does this imply that he is *not* "innocent" now? Again, he has "heard of some cows giving inferior milk to others, though in the same pastures, but never so of the honey of the 'little busy bee.'" Does he mean *than that* given by the other cows in the same pastures, or am I mixed? No, Mr. "Honesty," don't write and explain as to these points; put it down to my obtuseness. Yet wait. He also says in his letter, "but then I have no autumn or spring dodge." What is meant by this? Does he class legitimate spring and autumn feeding in the category of the adulteration trick and fraud? I think, if it is not troubling "Honesty" too much, he might "let the light in here." I quite appreciate and fully reciprocate his indignation as to fraudulent honey and palming off spurious articles for the real thing, but confess, after reading his letter, I got a bit "mixed."

With regard to the letter of "Phil Jones" (1603, p. 428), it appears to me that he has made the record score of the season in a big take from a single hive. I wonder what "Honesty" will think when he reads of—sections, 140 pounds; five frames, 30 pounds; eleven frames, 40 pounds; total, 210 pounds—and these sixteen frames in the brood nest or given to driven bees. But "P. J." continues: "Strange to say, all large brood nests gave most surplus on top." Strange, indeed, yet I never had a brood nest that ever gave a surplus of any kind, either top or bottom; *au contraire*. Mixed again. "P. J." also states that his bees have to go two and a half miles to get the honey.

This hive must have been a powerfully strong lot to judge from the result; and if this were so, I wonder whether "P. J." found it necessary to put any of the forty skeps of driven bees in with them to bring them up to "autumn standard?"

I say, friend "Honesty," when you next lament over your "short take," think of sixteen frames full of honey and seven crates of sections tiered up on the top of same; why the mere idea of contemplating such a pile makes the head feathers stand on end of even—THE HEATHEN, *November 1st*.

STORING AWAY COMB FOR EXTRACTING.

[1622.] Since my extracting combs have been cleaned up by the bees, I have had them tiered up in the surplus boxes in my bee-yard, covering over and making the "pile" waterproof and bee-proof, not caring to store them in my honey house too soon for fear of the wax-moth. When it became cooler I placed a couple of pieces of scantling about a foot apart, and set a board on this the size of bottom of box; then placed some bits of sections at each corner, and set on the box of combs, putting in a couple of balls of naphthaline, and then equally spread the combs (which usually contain eight), and then set on another box of combs, and so on as high as I could set them, covering the top with a piece of excluder zinc, putting something on that it shall not get out of place, thus ensuring that the combs are well ventilated, and there is no chance for the mice to get in. I stack them thus year after year. When putting combs away, I usually look over them, setting aside any containing pollen, to have the latter scraped off or melted up for wax. I found some stocks this season had carried more pollen through the excluder than usual, but in no case had the queens got through. I set boxes of shallow frames with metal ends on three hives, thinking of putting queens up from below, as suggested by friend Holliday, of Congleton, but never had time to go to hunt up the queens, as the stocks were away from home. The excluder zinc was under these frames, and the bees put a fine lot of pollen in, I expect, in anticipation of queen getting up there.—JOHN WALTON.

DESTROYING CATERPILLARS.

[1623.] In the *British Bee Journal* for October 19th (1592, p. 418) I notice that your correspondent refers to being troubled with cater-

pillars, and gives particulars of the remedy he uses to get rid of them. May I here say that my father was troubled with the same pests some years ago, and a friend recommended him to spread a little tan on the ground close to the trees, declaring that he would have no caterpillars the following year? In the autumn, therefore, when the caterpillars had assumed the chrysalis form, he put tan around the trees, and next year not a caterpillar was to be seen. The tan is washed into the earth by rain, and in some way destroys the chrysalis. If you have not heard of this plan before, it might benefit some readers of the *B.B.J.* to publish it. —R. Bayley, *Plymouth.*

BEES PERISHING IN SNOW—HOW PREVENTED.

[1624.] It would be useful to hear—now that winter is at hand and snowstorms approaching—the various plans bee-keepers use to save bee-life when the ground is covered thick with snow and a bright warm sun comes out. If left to their own devices, hundreds of dead bodies will be found on the surface of the snow in a very short time. I have tried stopping the mouths of the hives with perforated zinc, but, after a long bad storm, the bees want a flight in the sun. I have tried placing a heap of snow just before the doors, but that is a very uncertain preventive. The best way, I believe, is, where the snow falls, to sweep a large space bare in front of the hives, and keep it swept when comes. Alighting on the ground, frozen though it may be, does not chill them as snow does, and, moreover, in snow their struggles to rise only make a hole, in which their poor frozen bodies soon lie still. But I should much like to hear what bee-keepers generally do.—A Yorkshire Bee-keeper, *November 4th.*

WIDTH OF SHALLOW FRAMES.

Are Metal Ends Needed in Surplus Chambers?

[1625.] About three or four years ago, Mr. Wm. Woodley paid me a visit, and I showed him some shallow frames with ordinary top bars, and W.B.C. metal ends; they were nicely filled with sealed honey. Mr. W. observed "how much better they would be if the combs were thicker." I held the same view, and altered all the frames I had in use by tacking a bit of three-eighth-inch wood on each side the top bar, to within an inch of the ends, which made bars about five-eighth-inch thick, leaving the ends of top bars the ordinary seven-eighths to lay hold of, and not using any metal ends at all. I have had several hundreds filled this season, some combs weighing over six pounds. Eight frames go in the place of ten spaced at ordinary width, and have not found metal ends necessary. There has been but very little propolising, and when examining surplus boxes tiered up, very few bees lodged or loafed about at the end of frames. I have also used a lot of wide top bars, full standard depth, but have not felt a want for wide ends to put on them. Many years ago I used shallow frames one-and-a-half inch thick, but as I did not then work much for extracting, I discarded them.—John Walton.

[Referring to the necessity for a wider metal end for frames in a surplus chambers, it need hardly be said that bee-keepers who, like our correspondent, can dispense with them altogether, will not trouble about width of ends at all. It is only for the more numerous class who prefer "ends," that the question of altering the width of those used in surplus chambers is interesting.—Eds.]

POSERS.

[1626.] One "poser" has been disposed of, and there is a probability of disposing of another, viz., the whereabouts of the "Man of Kent." A subscriber has received an anonymous communication with these words, "The original Man of Kent is here." The postmark is Tunbridge. I believe that, strictly speaking, a "Man of Kent" belongs to the southern side of the Medway; we must, therefore, not look for him this side the river. A Kentish man, a farmer, told me to-day that he got 143 pounds from a single stock this season!

There is yet another poser to solve. Who and where is the "Woman of Kent," who took 733 pounds from eleven hives? If she puts in for Kent champion, then we shall be able to send our congratulations on her success.—A Kentish Man.

THE "WELLS" HIVE.

[1627.] I find that the "Wells" hive answers well with me. I have worked one this season and it has given me 130 pounds of honey, and I have taken two swarms. My twenty others, on the combination system, give thirty-five pounds each on the average, without any increase of stock. The yield this year is below the average in this district.—H. O. Huntley, *Worcester, October 30th.*

WEATHER REPORT.

Westbourne, Sussex.

October, 1893.

Rainfall, 7·08 in.	Sunshine, 136·3 hrs.
Heaviest fall, 2·28 in. on 17th.	Brightest day, 12th, 9·15
Rain fell on 22 days.	Sunless days, 7.
Above average, 3·25.	Above average, 12·7.
Max. temp., 61° on 21st.	Mean max., 55°.
Min. temp., 30° on 31st.	Mean min., 41·7°.
Min. on grass, 22° on 31st.	Mean temp., 48·3°.
Frosty night, 1.	Max. barometer, 30·56 on 24th.
	Min. barometer, 29·21 on 4th.

L. B. Birkett.

ESSAYS ON BEES.

Bees and the Bishop.

In a communication before us, "C. N. P." writes:—"1. Will any readers of the *Journal* kindly suggest any hints on preparing an essay on 'Bees?' (not bee-keeping, but more particularly 'bees,' and especially the honey-bee). I can *talk* already about bees, but I should be obliged for some hints as to the headings arrangement, &c. 2. Will some reader also give, in your columns, the tale anent the curate who eked out his scanty income by keeping bees, and was thus enabled to entertain his bishop sumptuously, to his (the bishop's) no small surprise? 3. About how many species of bees are there?"

[To the last query we reply: Including the various orders of *Andrenæ*, there will be between two and three thousand varieties or species of bees existing in all parts of the world.—Eds.]

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of October 1893, was 951*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Echoes from the Hives.

Hill Farm Apiary, Steventon, October 14th.—Having followed the directions given by Mr. Woodley in former *Bee Journals*, I have this year secured about 756 pounds of honey from fourteen hives, an average of fifty-four pounds per hive. As a novice at the bar-frame, I don't think I have done very badly.—Jas. Dunsden.

Queries and Replies.

[911.] *Combs Breaking Down in Driving Bees.*—The last two seasons I have drummed the bees from three skeps into empty ones, and both times I had a breakdown of the combs when "drumming." 1. Is there anything I can do to make the combs tougher? When feeding this autumn, I was much troubled by wasps going into the hives and eating the food intended for the bees. 2. How could they have been prevented? 3. How are bees transferred from a straw skep to a bar-frame hive.—Cran, *Aberdeenshire.*

Reply.—1. By the exercise of a little care in "drumming," and striking the skep opposite the *ends* of combs, there need be no breakdown when driving bees from skeps. When establishing bees in skeps intended for driving, two or three sticks should be pushed through, reaching from side to side, before the bees are hived in them. 2. Bees can only be protected from wasps by keeping stocks strong, and narrowing entrances to allow of one wasp passing in at a time. 3. By throwing the bees out in front and allowing them to run in.

[912.] *Moths in Combs.*—I have a considerable number of good empty combs over-run with the moth maggot, full of burrows every way. Can you tell me how to get rid of the intruders without destroying the combs?—Thos. Isaac, *Maldon, November 1st.*

Reply.—There is no possible method of preserving for use combs infested as described, and melting down for wax is the only way of utilising them. The larvæ of the moth not only destroy the midrib of the comb by burrowing it through, but the tough, web-like fabric of the "burrows" are entirely beyond the bees' power to remove them. It should be borne in mind that a few pieces of naphthaline put away with combs effectually prevent such mischief as is complained of above.

[913.] *Zinc Separators—Glazed Boxes for showing Shallow Frames.*—Can you inform me (1) what the nature of the composition on the enclosed zinc is, and whether it is injurious to bees, and if so (2) how can I remove it?—as I have a quantity cut in squares for section separators; (3) where can glazed boxes for exhibiting shallow frames of comb honey be obtained?—G. F. D.

Reply.—1 and 2. The "composition" is simply printed paper with a coat of varnish. A few minutes' insertion in boiling water will, no doubt, take it off, and the bees will be best without it. 3. Any appliance-maker will supply them to order.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Joseph Mitchell (Addiewell).—*Bee-candy.*—Full particulars for making candy are given in *B.J.* for March 9th last, page 91, another recipe appearing in our monthly, the *Record*, for March, 1892. Mr. Saddler, of Forfar, makes it for a much less price per pound than the one you quote.

J. Martin (Bristol).—*Samples of Honey.*—Nos. 1, 2, and 3 are all good honeys, No. 2 especially so. We do not think that No. 1 is entirely from clover, though largely from that source. The sample in small jar is poor in quality, the flavour and aroma being very objectionable.

Lordswood.—Your interesting communication, entitled "A Hive of Wasps," is in type, and will appear next week.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—So little news of any note has needed recording in this column of late, that we have been rather glad than otherwise to occupy it with other matter for a longer interval than usual. The weather has now become quite seasonable, and though no snow has yet appeared in the south, sharp frosts at night have been frequent for over a fortnight past. The season has maintained its character as an abnormal one for vegetation quite to the end of the growing time, for we have it recorded that second crops of strawberries and raspberries were gathered in October, also that even apples and pears have in 1893 yielded two crops! Weather prophets are foreboding an unusually severe winter, and so we would say to bee-keepers, Look out for and guard against such an event.

THE PRESENTATION AT THE MANSION HOUSE. — The interesting little function, which took place on the morning of the 1st inst., has probably caused more stir in the newspaper world—so far as the "fourth estate" has to do with bee-keeping—than anything the oldest of us can remember. After having been written about and commented on by every leading morning and evening paper in London, and by weeklies as well, it has been taken up in a remarkable manner by the provincial press. Judging by the number of cuttings which have reached us, favourable notices have appeared in some scores of papers in various parts of the kingdom. *Verb. sap.* says the adage, and if our Associations are as wise as we hope, they will take the hint and endeavour to take legitimate advantage of the tide being with us. In other words, British bee-keeping—which means British honey-producing—will be talked about by thousands who have never before given a thought to it, and our endeavour should be to direct attention to the native product as being excellent in quality, easily obtainable, and reasonable in price. By these means the number of consumers will be increased.

HUCKLE TESTIMONIAL FUND. — It is very pleasing to note that the total sum to be presented to Mr. Huckle has reached the respectable total of over 155*l.*, and it goes to show that, in this case, the prophet has found honour even in his own county, when we observe that two-thirds of the sum was subscribed by Mr. Huckle's immediate neighbours and friends at Kings Langley. We have always thought that bee-keepers regarded the "Huckle Testimonial" rather as belonging to the orthodox "timepiece" or "illuminated address" order of events, rather than as one of those very opportune and welcome tokens of regard which take the shape of a purse of sovereigns to an esteemed, but not very wealthy, pastor. Had this not been so, we are fain to think that a longer list of names would have appeared on *our* side of the subscription list. Anyway, a cheque for 50*l.* will show that bee-men are not quite without appreciation of Mr. Huckle's modest merits.

WIDE "ENDS" FOR SURPLUS CHAMBERS.—The question of the advisability or otherwise of a special wide frame for thick combs in surplus chambers was fairly well discussed at the recent *conversazione*, and the resolution carried in favour of the retention of the present shallow frame will, we think, be generally approved. Indeed, anything tending to the retention of present appliances—so long as efficiency is secured—is sure to meet with more favour than would the introduction of a frame of new pattern, and the consequent making firewood of those in present use. All that is needed, therefore is a "wide end" to slip on the old frames, and the thing is done, much to the comfort of those who already possess a goodly stock of store combs. Referring to the question of damaging combs when extracting, in consequence of the face of the

comb lying close against the wire of the revolving cage, we have, after long experience with extracting combs, never had any trouble in this way.

BEES PERISHING IN SNOW. — A correspondent last week (1624, p. 451) asks "what bee-keepers generally do" when snow lies on the ground and the warm sun shines on hive-entrances? Well, it may be said that the circumstances existing at the time have much to do with the treatment adopted. For instance, when the weather is cold, the snow dry, and entrances exposed to sunlight, we have frequently thrown a good shovelful of snow over each hive-entrance, and so stopped out the light and kept the bees in. It is always unadvisable to close entrances with perforated zinc; rather leave them open, and allow the bees to take their chance; but a bit of temporary shade to keep out sunlight is always useful.

COUNTY ASSOCIATIONS AND THE PROMOTION OF BEE-KEEPING.

Referring to the article on p. 444 of our last issue, and the suggestion therein made as to the best way in which it appeared to us that County Associations might promote their objects at this juncture, we have been inquired of as to the best manner of practically carrying out the suggestion offered. In reply it may be said that in most counties there will be some special circumstances to consider—circumstances which, in a measure, are bound to guide those taking action in the matter under consideration, but we think the method of procedure followed by the Kent County Association will commend itself as being likely to effect some at least of the good desired. The K. B. K. A. has had inserted in all the county papers an appeal signed by the President, Lord Sackville, which reads as follows:—

"TO THE EDITOR.—SIR,—As President of the Kent Bee-keepers' Association I shall be thankful if you will allow me the opportunity, in your columns, of advocating the claims of the bee-keeping industry.

"At the last annual meeting of the Association, the Chairman said, 'Kent ought not only to be called the garden, but also the "Apiary" of England,' for as a field for bee-keepers the county is probably unsurpassed.

"Sir James Whitehead, at the Mansion House, on the 1st inst., cited the remarkable yield of 142 pounds of honey from a single hive by a member of the Association, a farmer, near Farningham. A lad who took the prize hive offered by the Association at the Swanley bee-keeping lectures last year, removed from the same hive this year 73 pounds. A lady bee-keeper in the county has recently taken 733 pounds from eleven hives. In one village the members of the Association have realised in the aggregate 50*l.* worth, but instances could be multiplied, if necessary, to prove that bee-keeping is undoubtedly a source of considerable income, and it is the duty of the Association to encourage its extension in the county.

"For the purpose of preparing statistics of Kentish bee-culture, the Association has taken a bee-keeping census in 49 parishes of the county, showing 511 bee-keepers, owning 1986 hives, of which 853 are the old-fashioned straw skeps. If this be taken as a basis of calculation for the other parishes of Kent, the county total approximates to 4000 bee-keepers owning 16,000 hives, but a large proportion of the hives are straw skeps, and probably more than half the bee-keepers unskilled, so that nothing like a proper yield of honey is obtained in proportion to these numbers.

"In some parishes a ton of honey or more is obtained every average season, and there are at least from 300 to 400 parishes in which this quantity could be raised, if there were the bee-keepers. In all probability not much more than a tithe of this quantity is collected, it is therefore obvious that scores of tons are annually lost to the county.

"The Association, especially in the present year, has much reason to be satisfied with the encouragement it has received, but its income is totally inadequate for the work it has to do. There has been a very considerable increase in the number of its members, but as the bee-keeping literature gratuitously supplied every month to every member, costs the Association 2*s.* 6*d.* out of the minimum annual subscription (5*s.*), the increase of income is too slow to keep pace with the expenditure which the work demands. In addition to the monthly literature there are the exhibition privileges—prizes, free admission to County Show, and the privilege of applying to the Honorary Secretary, Hon. Local Secretaries, or the expert when necessary, for advice and assistance.

"I therefore appeal to the bee-keepers of Kent, as well as to all who are or ought to be interested in the county progress, to steadily support the Kent Bee-keepers' Association in its endeavours to extend and encourage the bee-keeping industry. Our Chairman, the Hon. Secretary, at Meopham, the Hon. Treasurer, or the Local Hon. Secretaries (whose names are at foot), will be happy to receive subscriptions.

"Apologising for the length of this, letter, I am, Yours faithfully, SACKVILLE, *President*."

An appeal like the above, along with such personal influence and effort as is available, should surely result in a sensible addition to the list of subscribing members. But the fact ought not to be lost sight of, by those who follow up their efforts to benefit their Association to the extent of a personal appeal or canvas, that help is sought not only from those who are themselves bee-keepers or who intend to become such, but from that larger class who are willing to support a good cause from motives of philanthropy and public spirit.

IS THE USE OF COMB FOUNDATION PROFITABLE?

Interesting Experiments at the Michigan State Apiary, U.S.A., by the Apiarist, MR. R. L. TAYLOR.

I desire in this article to set forth briefly the character and results of the experiments made in the apiary to test the comparative value of comb foundation and starters when used in the brood chamber for swarms, and, in addition thereto, to call attention to what the experiments seem to disclose touching the comparative advantage of swarms of different sizes. In the main, all this can be best accomplished by the use of tables which I have prepared, and which are presented herewith.

It was not till the 27th of June that I was able to put into operation my plans for making these tests. I prepared twelve hives, four of which were furnished with comb, four with foundation, and four with starters only. The hives prepared with comb were designated by the numbers one to four inclusive, with the letter A; those with foundation, in like manner, with the letter B; and those with starters, with the same numbers and the letter C; and each hive was marked with the proper designation and its weight. Then in each case when a swarm issued, which was to be used for making this test, it was secured in a basket and weighed before hiving; the supers also, whether taken from the old hive at swarming or supplied subsequently, were carefully weighed before they were put in place, and a record made on the spot of all items. By referring to Table A, all these will be found in the three columns following the date of hiving, except, of course, the weight of the cases subsequently adjusted, which appears further along.

I ought also to say that in each case the hive with the bees and cases was reweighed early on the morning subsequent to the hiving, in order to detect, and thereby correct, any change which might chance to take place before the swarm became settled in its new home. The only change it was found necessary to make was the addition of the fraction of a pound to the weight of the bees, which may be supposed to be accounted for by the presence in the morning of bees which at the time of swarming were afield.

Other data for Table A were obtained by weighing the several hives, bees, supers, and all upon three different dates, viz., the 6th, 12th, and the 19th of July (thus dividing the time of the test into three nearly equal periods), and by weighing the cases of honey separately on July 19th, at the end of the time given to the test. These data, with the previous ones, enable me to state the exact total gain of each colony for each of the three periods, the gain of each colony in the amount of comb honey, together with the gain in the weight of the hive for the entire time. From these I deduce the gain per pound of bees of each colony for each of the three periods, as well as for the entire time, and

TABLE A.

Starters.	Hived on.	Combs.	Foundation.	Starters.	Designation.
Hived June.		27	27	27	
Weight of Hive, Pounds and Ounces.		19 8 16 4 19 0 19 0	15 8 15 8 17 0 15 8	16 8 16 12 16 0 15 8	
Weight of Cases.		11 4 24 4 21 0 14 4	28 12 53 0 5 8 6 12	5 0 19 8 15 8 7 8	
Weight of Bees.		7 12 7 8 7 3 5 8	7 8 7 4 5 4 4 0	7 8 10 12 5 0 4 4	
Total Weight at Time of Hiving.		8 0 38 4 48 6 43 12 38 12	51 12 75 12 27 12 26 4	29 0 47 0 36 8 27 4	
Total Weight 6th July.		69 0 80 8 48 8 53 0	82 8 105 0 39 12 35 12	46 4 57 0 47 8 36 0	
Total Gain 1st Period.		30 8 32 5 14 4 9 8	77 4 30 12 29 4 12 0 9 8	17 4 10 0 11 0 8 12	81 8 37 0
Gain per Pound of Bees, Pounds.		3·935 4·333 1·833 2·591	4·1 14·034 2·285 2·575	2·3 ·93 2·22 2·068	
Weight of Cases Adjusted July 6th.		9 8 — — — — — —	8 12 7 8 — — — —	8 0 — — 8 4 —	
Total Weight 12th July.		87 4 93 0 49 8 63 0	104 0 129 0 49 8 48 4	66 8 65 0 67 0 49 8	
Total Gain 12th July.		39 4 45 0 6 8 24 4	43 8 45 12 21 12 22 0	29 8 18 0 23 4 22 4	
Total Gain 2nd Period.		8 12 12 8 41 0 16 0	31 4 12 12 16 8 9 12 12 8	51 8 12 4 9 12 11 4 13 8	37 0
Gain per Pound of Bees 2nd Period.		1·129 1·666 — 1·818	1·7 2·275 1·857 3·125	1·633 — 2·25 3·176	
Total Weight 19th July.		95 4 108 8 52 4 72 0	118 8 134 8 55 4 56 0	75 0 69 8 77 0 59 12	
Total Gain 19th July.		47 4 60 8 9 4 33 4	58 0 51 4 27 8 26 12	38 0 22 8 32 4 32 8	
Total Gain 3rd Period.		8 0 15 8 — 9 0	32 8 14 8 5 8 5 12 7 12	33 8 8 8 4 8 10 0 10 4	28 12
Gain per Pound of Bees, 3rd Period.		1·032 2·066 — 1·636	1·933 ·758 1·095 1·937	1·133 — 2 2·111	
Weight of Cases July 19th.		55 12 62 12 19 12 31 0	88 0 102 4 18 0 21 4	46 0 45 4 46 4 21 8	
Total Gain in Comb Honey.		35 0 38 8 — 16 12	90 4 50 8 41 12 12 8 14 8	119 4 33 0 25 12 22 8 14 0	69 8
Total Gain in Comb Honey per Pound Bees.		4·516 5·133 — 3·045	6·733 5·758 2·281 3·625	4·4 — — 4·5 3·294	
Total Gain in Weight of Hives.		12 4 22 0 — 16 8	50 12 7 8 9 8 15 0 15 4	47 4 5 0 — — 9 12 18 8	33 4
Gain in Hives per Pound of Bees.		1·58 2·933 3	1 1·31 2·857 3·812	·666 — — 1·95 4·352	
Total Gain per Pound of Bees.		6·006 8·066 — 6·045	7·733 7·003 5·237 7·437	5·066 — — 6·45 7·646	

3 A and 2 C are disregarded in subsequent tables.

also the gain in the weight of the hive, and the gain in the amount of comb honey for the whole time.

It will be noticed by reference to the tables

TABLE B.

Description of Swarms.	Weight of Bees in Pounds and Ounces.	Gains first Period.	Gain per Pound of Bees.	Gain second Period.	Gain per Pound of Bees.	Gain third Period.	Gain per Pound of Bees.	Gain Comb Honey.	Gain per Pound of Bees.	Gain in Weight of Hive.	Gain per Pound of Bees.	Total Gain.	Total Gain per Pound of Bees.
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
Group A	20 12	77 4	3 722	31 4	1 506	32 8	1 566	90 4	4 349	50 12	2 445	141 0	6 794
Group B	21 0	81 8	3 395	51 8	2 145	33 8	1 395	119 4	4 968	47 4	1 968	166 8	6 956
Group C	16 12	37 0	2 208	37 0	2 208	28 12	1 76	69 8	4 15	33 4	1 97	102 12	6 12
TABLE C.													
Group A (Swarms of over 7 pounds	15 4	63 0	1 131	21 4	1 393	23 8	1 511	75 8	1 819	31 4	1 215	107 12	7 065
Group A (Swarms of less than 6 pounds	5 8	14 4	2 591	10 0	1 818	9 0	1 636	16 12	3 015	16 8	3	33 4	6 045
Group B (Swarms of over 7 pounds	14 12	60 0	4 065	29 4	1 983	20 0	1 355	92 4	6 274	17 0	1 152	109 4	7 406
Group B (Swarms of less than 6 pounds	9 4	21 8	2 321	22 4	2 405	13 8	1 459	27 0	2 92	30 4	3 27	57 4	6 189
Group C (Swarms of over 7 pounds	7 8	17 4	2 3	12 4	1 633	8 8	1 133	33 0	4 4	5 0	666	38 0	5 066
Group C (Swarms of less than 6 pounds	9 8	19 12	2 078	24 12	2 605	20 4	2 131	36 8	3 812	28 4	2 973	64 12	6 815
TABLE D.													
Total of Swarms of more than 7 pounds	37 8	140 4	3 738	62 12	1 671	52 0	1 386	198 12	5 3	56 4	1 5	255 0	6 8
Total of Swarms of less than 7 pounds	24 0	55 8	2 312	57 0	2 375	42 12	1 781	80 4	3 313	75 0	3 125	155 4	6 468

that almost nothing has been made of 3 A and 2 C. The explanation of this is that the latter persisted in its desire to swarm until it eventually lost a considerable part of its bees by their uniting with another swarm, and the former, within a day or two after swarming, in some way lost its queen, and dispersed more or less in consequence. The only question with regard to the propriety of this course arises when we consider Table C, wherein the comparative advantages of large and small swarms are weighed. Perhaps 2 C should have been permitted to cut some figure in that, for it clearly illustrates one of the disadvantages of very large swarms.

Table B is a summary of Table A, and puts the tables of each group of colonies employed in the experiment side by side, so that the general results are seen at a glance.

Table C is derived from Table A, and puts in contrast the work of the stronger colonies of each group with that of the weaker ones of the same group; and Table D is an epitome of Table C. *(To be concluded next week.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

WHAT ARE THE COUNTY ASSOCIATIONS DOING?

[1628.] Since the Mansion House presentation, there has been much interest excited all over the kingdom on the subject of bee-keeping and honey-production.

In war it is a recognised rule to follow up a success. Are our bee-keepers taking advantage of the present opportunity to secure successes all along the line? What have Associations done? You will see that Lord Sackville, President of the Kent B.K.A., has circularised all the Kent press—I hope, with good results to the "Kent." I wish all the County Associations would take the same line of action, and strike while the public sympathy is with the bee-keepers. The stir made by the newspaper reports will soon calm down, and then there will be less opportunity for bee-keepers to enlist recruits.

Where Associations are organized with zealous bee-keepers at the head of affairs, considering the rural weal more than their own advantage, the tide can be taken at the flood, and their counties will obtain benefit, but how about Associations only half-alive, and existing more in name than reality? We shall certainly have a new departure in bee-keeping if our bee-keepers are equal to the occasion, or, as the Lord Mayor put it, "true to themselves."—A MEMBER OF THE KENT B.K.A.

[We publish the letter referred to on another page, and would be glad to see our correspondent's enthusiasm become contagious.—EDS.]

LECTURERS' ERRORS.

[1629.] I fear your correspondent (1615, p. 439) is not on the right path for the furtherance of bee-keeping. We are all aware how easy it is to say things we do not intend. I well remember hearing a lecturer allude to "protecting the wrists" as "protecting the ankles." This was a slip, but no doubt your correspondent would have something to say on that, even. I have not the slightest doubt the case in point would be merely a slip of the tongue.

In support of this we must suppose one of our County Council lectures is referred to. If such is the case I may—speaking for my own county—say these lectures have been under the supervision of a special Sub-Committee of our Association, with myself as Secretary, and none but qualified experts were engaged to do the lecturing, and who, I do not hesitate one moment in saying, know better than to make the statements referred to, except, as I have said, by a slip of the tongue. Further, I have already questioned our lecturers, and I am firmly convinced neither of them made the errors stated—at all events, not knowingly.

The only inference is that your anonymous correspondent is not a friend of Associations, and, moreover, is casting a slight upon the British Bee-keepers' Association, for it is hardly reasonable to suppose they would pass a candidate not properly qualified.

It is a pity your correspondent does not give fuller details—also let us know who he is. To adopt a *nom de plume* in cases like this is, to my mind, as objectionable as anonymous letters are; but if he will apply to me and give his name I am fully prepared to go into the whole matter with him and explain what is not clear. I much regret that he did not call the lecturers' attention to what he calls "inaccuracies" at the time instead of letting them pass, and causing disturbance by raising the question in *B. J.*—H. Hill, *Ambaston, Derby, November 4th*, 1893.

[It is, no doubt, both desirable and necessary that lecturers on bee-keeping—who are supposed to be in the fullest sense teachers—should be most careful that no "slips of the tongue" on their part go so far as to amount to "inaccuracies," or their teaching becomes unsound. But, unless our correspondent is in possession of more information than appears in the letter referred to, we do not quite see why the strictures of "Bee" should be supposed to apply definitely to a lecturer engaged by the Derbyshire Association. The lecture in question may have been delivered in some other county for all that appears on the surface.—Eds.]

FRAME ENDS.

[1630.] Your correspondent "H. C. J." (1608, p. 435 of *B. J.* for November 2nd) describes how he makes the "W. B. C." ends act as distance-keepers for sides of frames between inner walls of hive. I had myself experimented in this direction, and, although your note on "H. C. J's." letter justly points out that the consequent fixity of position of the tin end destroys its great advantage for spacing frames one and a quarter inch apart, I would urge that makers should supply "W. B. C." ends with such distance-keeping spur when required, for the following reasons:—

1. For shallow frames the objection does not apply. We here want more spacing apart of frames—never less; and, in addition to such reasons as Mr. Woodley gives (p. 134 of October *Record*) for this distance-keeper, it is evident that it obviates two of the elements of error, namely, fixed and exact length of top bar and exactitude in outer walls or distance strips.

2. Even in the brood chamber "W. B. C." ends with such distance-keeper would be useful (and surely countenanced by you) in cases of existing hives having no arrangement for spacing by the extemities of bars, and when "W. B. C." ends are preferred to other metal ends or to the wood of broad-shoulder bars.

In such cases it would permit of adopting the "W. B. C." end throughout an apiary containing different forms of hives, and would thus enable all frames to be interchangeable.

As spacing to one and a quarter inches is not a frequent operation, it could still be accomplished with care by removing alternate ends and adjusting the frames temporarily between hive sides without any distance-keeper for this adjustment.

A better way, I think, of making the distance-keeper spur than that explained by your correspondent, would be to cut out a V-shaped spur (or two pressed together for strength) having the *edge* of the tin, instead of its face, against the hive side, thus reducing contact surface for propolisation.

Another method of side-spacing frames, when using the "W. B. C." ends under the circumstances described, and, failing the above adaptation of the end, is to drive small panel pins into frame sides under the ears. Experimentally I find it easy and speedy to drive the pins in to exact depth by using a hollow punch having a hole a quarter of an inch deep.

The questions of frame ends, thicker and perhaps wider top bars than seven-eighths by three-eighths (for rigidity and lessening brace combs) in standard frames, and for thick-combed shallow frames and thickness of ears if my top bars be half an inch thick, are of much interest to me as a beginner in bee-keeping, and I am postponing decision for next season till I see my way clear to the best form to adopt as a permanency, and for interchangeability of frames without being tied to particular hives.

I started with two stocks in skeps in July, one weak in bees and stores, it having previously lost several swarms, and took them to the heather, where the stronger lot gave me twenty pounds of section honey, and each filled up to thirty pounds of stores for wintering. In

the six weeks ending October 30th, the loss of weight was only two and three-quarters and three pounds respectively.

I think this is not a bad way for novices to begin, with all due deference to Mr. Grimshaw's arguments to the contrary. *I*, at all events, got some practical bee-keeping experience and incidents while gaining time for education before selecting and committing myself to bar-frame hives and accessories. I have now for next season a couple of hives of the Abbott type, by present, and my weaker skep is snugly packed in the outer case of a "W. B. C." hive—my first choice for purchase.

I am much indebted to you for the pleasure and valuable instruction gained from the *Bee Journal* and *Record*, and I find that the past years' volumes of the latter lose none of their interest by age.—F. S., A LANCASHIRE NOVICE, *November 11th.*

BEES AND THE BISHOP.

[1631.] In your issue of November 9th (page 452), I find a query, 'The tale anent the curate,' &c. This is the answer.

The Abbé Brinaimé, who afterwards became Bishop of Metz, was, about the year 1800, curé in the small village of Nonancourt. Mgr. de Narbonne, bishop of Evreux, who was on his first pastoral visitation, came to the village, visited the church, and repaired to the presbytery for dinner. To his great surprise, a sumptuous dinner was served (*très-recherché*). At dessert, still more sumptuous than what had been served before, the Bishop could not refrain from exclaiming, "My poor curé, you have lost your head! How could you indulge in such expense after my strict orders that you should add nothing to your *ordinaire?* And, behold, you are spending one-fourth of your meagre yearly income to receive me!" "I could not do less to receive your Lordship; but have no fear, my Lord. Besides my little living, mostly spent on the poor, who form the bulk of my flock, I receive abundant supplies from a very laborious community of virgins who are under my direction" (the priest used the French pun in pronouncing the word *abeiller* (*i.e.*, an apiary) as *abbaye*, an abbey). "What, an abbey! (*i.e.*, a religious community). What, an abbey! An institution established here without my knowlege?" "I must confess, my Lord, that this institution is out of your jurisdiction; but, if you will allow me, I shall have the honour to show it to you directly." On rising from the table, the Bishop was shown into the garden, where flourished a splendid apiary of some hundred colonies. "This, my Lord, is the *abbaye* (abbey) of industrious workers to whom I am indebted for my means." At the sight of the myriads of the humming and busy insects, the Bishop gave expression to his admiration, and congratulated the worthy priest on his thrift, and on his having found such a profitable recreation.

Now, if you will allow me, I will give you a bit of experience, or, the *story of a bee-sting.*

One Saturday afternoon I was stung on the eyelid. The sting was extracted, the swelling soon disappeared, and I thought no more about it, but about eight days after, suddenly I felt a sharp pain in that eye. Having forgotten all about the sting, I feared it was some tiny piece of glass. I did all I could think likely to relieve me, to no purpose. I saw the doctor twice; he seemed to scrape something out of the inside of the eyelid, and declared there was nothing. I then inquired if there was some oculist in Salisbury, and went to Dr. Kingscote. After a careful examination with a lens, he thought he saw something black and extremely minute. He scraped it out with the aid of a pocket-pencil, and put it on his thumb-nail. "A bee-sting!" said I, on seeing it. And so it proved to be under the microscope. The sting had not been extracted entirely, but broken, and as its barbs had prevented its being worked out backwards, the tissue of the eyelid worked it inwards until it reached the eyeball, and caused, at moments, a very acute pain. Moral:—Extract stings; don't break them.—A CONSTANT READER.

BEES IN SOMERSET.

[1632.] The season of 1893 in this locality has been a very poor one for bees, the worst I have experienced since I commenced bee-keeping. The fruit-bloom in season stimulated breeding, so that at the end of April we were on the look-out for swarms; but the expected did not happen. Clover appeared in small quantity early in June, but was burned brown before a week, and the limes had "come and gone" about the same time, and from thence to the end of July the fields were brown and bare. All expectation of a crop was vain, and in most cases surplus chambers were removed. In August there was a plentiful crop of clover and "charlock," and bees started work again, bringing in plentifully. In some cases the brood nest had to be relieved, substituting empty frames for full ones; but the quality of the honey was so bad that I would neither offer it for sale nor use it for any other purpose than bee-feeding. I see it stated in *B.B.J.* of October 19th, p. 414, in some remarks upon the Dairy Show, that 1893 was so much better than 1891. Now, I believe that if a general report from all parts were returned, this statement would only stand good in places. In 1891 I had 100 pounds per hive of the best honey I have ever handled; in 1893 I have averaged about 30 pounds per hive of what I consider only about third-class honey, and from my knowledge of this neighbourhood I have fared as well as any others. I had no swarms. Drones were scarce all the season, and got leave to live a good long while. One strong stock that I am quite sure is all right only turned the drones out about the middle of last month.—R. AULD, *Bath.*

[Referring to our observation on the Dairy

Show, we do not think there can be any doubt that the bee-season, as a whole, has been considerably better this year than in 1891. We have, however, never concealed the fact that it has not been so good in some southern districts. —EDS.]

A HIVE OF WASPS.

[1633.] Coming from the happy possessor of an apiary of ten hives and an out-apiary of one hive, this may seem somewhat strange. The bee-keeper is supposed to wage incessant war, like all other mortals, against the whole Vespa family, from the princely hornet (*Vespa crabro*) to the tiny bush-wasp (*Vespa norvegica*). And why? For the simple reason that there is a legend about a weak hive being cleared out by them. From my experience, a stock which cannot defend itself against wasps is probably queenless—or, at any rate, in such a sad condition that it is the better for being defunct.

The way I became a wasp-keeper happened in this wise. There is a shed in the garden fitted up with a circular-saw bench and tools, with which I amuse myself making hives. The shed contains all manner of curious contrivances, which the uninitiated would certainly suppose to be quite foreign to the enlightened management of bees. On a shelf there stood a hive in which were four frames of comb and a dummy board. The queen (*V. Germanica*) may have hybernated in this, for all I know. However, she had been house-hunting, and finding the situation pleasant—it overlooked an orchard—the hive well built—Abbott's make—had decided to take it for the season; and so commenced the nursery there between the combs. The queen worked well, and soon her children began to hatch out, and with their help the nest grew apace. And, now, the hive-bee might well take a lesson from the wasp; for, by the time the lazy bees had rubbed the miller's dust out of their eyes in the morn, the vigorous wasp had been abroad for several hours, and many a tiny caterpillar had let itself down for a swing in the cool breeze for the last time. The amount of good that wasps do in this way is incalculable, and goes far to counteract the damage they do to ripe fruit in the fall.

The hive-bee only *returns* laden, but the wasp bears away a burden also. If from a nest in the bank, a grain of sand: if from a frame hive, a piece of comb. To make a hole in the bank a foot in diameter, how many grains of sand have they carried away? Think of it, and go to the wasp, thou sluggard!

At the beginning of July the nest was twice as large as a cocoanut, and it being difficult to interview them, I decided to cut out the nest and fix it under a bell-glass. From the cutting out of that nest I trace my present immunity from rheumatism. Thinking they would act like bees, I put no gloves on; but they do not act like bees. The latter seem to think it rather ignoble to sting anything less than some part of the face, just above the eye for preference. The wasp is not so particular, so long as it is a nice soft spot, and to find this spot she is quite willing to walk around the waistcoat, &c., for an hour or so, uttering at the same time a peculiar "Tweak-tweak," which certainly does not add to the courage of the pursued. It is a moot point among naturalists whether this tweak-tweak is caused by a striking of the wing against the abdominal plates, or whether it issues from the mouth, and I feel sorry now that I did not pay that attention to it then which the subject deserves.

The wasps were not to be subdued by the smoker; it seemed, in fact, to only deaden the little spark of mercy they may once have had, and, to make matters worse, the top bar of one frame had to be sawn off at each end to make it go under the bell-glass. In the excitement I did not saw off enough by half an inch, so another sawing was necessary, and by the time it was properly fixed under the glass, my hands might easily have been mistaken for boxing-gloves. Swelling however, soon goes away, and the after-joy of seeing them prospering in their new home was fair recompense for the penalty I paid.

And now began a series of wonders that I had never seen the like of before. The nest was merely resting—much broken, too—against the side of the glass on a half-inch board; the diameter of the glass was sixteen inches, and the same deep, and I propped it up on one side half an inch to give a good entrance, and an empty skep covered all.

If you sit by a hive of wasps to observe their habits, you will find they are not so treacherous as bees. My bees often sting me on a Sunday when I am watching them, but these wasps never, although I sat there with the skep off the glass hour after hour. The way they worked was astounding; contrary to all precedent, they had to build upwards, and this was managed in an ingenious way. The paper covering—I use the word "paper" to signify the material with which the whole nest is built—was extended so thickly upon the top of the nest that it soon began to approach the roof of the dome. When within three inches, detachments of wasps commenced walls of paper from the top of the dome, and extended them down to the nest, to which they were fixed. The whole nest was now a most curious object: the walls of paper were built without any design, and the glass was honeycombed—using that word in its broadest sense—in the most fantastic manner. The working of the wasps was now partially hidden, but, taking into account the huge stock they afterwards became, we may presume that the crown of the nest was removed to make room for other combs. As a bell-glass full of honey on a hive is useless to a student of their habits, so was this hive of wasps, for nothing could be seen but paper, and wasps walking along the boulevards of their city. Prior to all this, and at the very commencement, they stopped up the entrance completely with paper, and extending it several inches out upon the board, left openings here and there to admit the passage of one

wasp at a time—another wrinkle for our friends the bees. The paper was also extended in beautiful laminæ, like banded shells, overlapping one another, half-way up the glass outside. This was not done to exclude the light, for the covering skep did that. My theory is that it was the work of those light-headed wasps who had been in the neighbours' beer bottles, but had escaped therefrom. Another feather in the cap of the teetotallers! Some few wasps preferred an underground passage, in case of a sudden attack, for they bored a hole through the half-inch board, and worked in and out that way. And how they did work, too!

From the earliest dawn, whether cold or warm, wind east or west, it did not matter, to dark at night I have heard them come home, when it was too dark for me to see them. The general entrance was through the open door of the shed, but some preferred to enter through a broken window facing the east, while a few others patronised a window facing south. At the beginning of August the noise made by them at night became a roar, and how they managed to ventilate the nest through so small entrances I cannot imagine. Unlike the worker-bee, who, when ventilating outside, faces the entrance, the worker-wasp turns her back upon the hive. Unlike the worker-bee, who never—to all appearance—goes to sleep, the worker-wasp distinctly does so. It tucks up its legs, bends its head, and shuts its eyes (!) in the most comical way. I wish I could draw, Messrs. Editors! Some of them evidently sleep with one eye open, for one night I took a candle to show the nest to a friend. We were admiring it, when one, a policeman for once, woke up and fled around. I said to my friend, "Now observe the poor beggar fly into the candle and scorch his wings." The "poor beggar" did not do any such thing. He settled on my hand, and, with a smile, pressed his sting—oh! into my quivering flesh! The candle dropped and went out, and we went out too. Afterwards I was glad of this episode, because it was a good illustration of the superior sagaciousness of the wasp compared with the bee. The latter has been extolled, from Dr. Watts upwards and downwards, and that is why I take up the cudgels on behalf of the poor wasp. He will enter a room through a half-open window, and daintily help himself to the sweets on the table, then fly out again. Now, honestly, will the bees do this? Will she not go bang against the pane?

But let us go and uncover the nest once more. It is September. The males, with long antennæ, and stingless, have been flying since July. The workers—undeveloped females—are fast dwindling away, dying, some worn out in the fields, some—a great many, indeed—in the traps set for them by neighbours. And now a score or more of the great, beautiful, true females, the queens, walk about the entrance of the nest, and occasionally fly out. These queens (some would have me say "mother-wasp," but they are such a queenly insect that I may well be excused the inaccuracy) are those fine wasps seen so abundantly in early spring buzzing about our banks. It seems strange that they have lain dormant—dead, to all appearance, for I often find them so in the winter-time—without a particle of food from September till March. Thus have I kept them in a pill-box through the dark winter months, letting them go joyfully when the crocuses have been in blossom, and perhaps a pale violet in the warm hedge-row. Thus have I kept the gorgeous peacock butterfly (*Vanessa io*). It never moved a limb or muscle, that I could see, all the winter, but floated away in the spring, strong and handsome, astonishing, maybe, the early primrose and the sun-loving celandine.

The nest is now nearly deserted; a few desperate workers steal in at the entrance of my hives, but are promptly ejected. A few queens still linger in the precincts of their home, but the vigorous hum and life of the wasp hive exist only in the memory—"Lord, keep my memory green."—LORDSWOOD.

PRICE OF BEESWAX.

[1634.] I think 1*s.* 3*d.* a very poor price for good beeswax. Mine is good enough, in purity and colour, to make good super foundation, for which we pay 2*s.* 6*d.* per pound, even when taking a quantity; and if dealers want our wax they should not offer less than we can get from the grocer, *i.e.*, 1*s.* 6*d.*, without further trouble. —R. AULD, *Bath, November 11th.*

BEES IN SOUTH DEVON.

[1635.] Frame hives generally did well; this year's skeps very poorly, as far as I have seen. With five hives I got 112 pounds from shallow frames and 120 good one-pound sections; also two hived swarms. Absence during July and August prevented my giving super room, or the take would have been much greater. In one hive a hybrid queen twice got through the new pattern excluder zinc, the zinc being from two well-known makers. Though so small, she showed great laying powers in the upper chambers.

Referring to 1601, if I had not let the bees clean up my shallow frames and sections out of doors they would now be useless, for the honey was thick, and the bees would take none below owing to the fine autumn gathering weather. As soon as the bees had repaired the combs, I put some of them again through the extractor, and exposed them all on fine days, a few at a time outside my bee-room, 100 yards from any hive. They were all well cleaned, and I do not think one bee was killed in fighting. The combs needed watching, as, if left out too long, the bees sometimes destroyed the cell walls.

I do not recommend outdoor cleaning up to beginners, but it can be safely done if there is no other resource with due precautions.—SOUTH DEVON ENTHUSIAST.

THE SEASON IN DURHAM.

[1636]. The total amount of honey which we have taken this year from our hives is as follows:—464 pounds in sections, about 200 of which were clover, and the rest heather; 118 pounds extracted. Total, 582 pounds; or an average of 83 pounds a hive. In addition, about three crates were given back to the bees to clean out, and no feeding has been needed. None of the hives swarmed.—L. W. H., *Durham.*

Queries and Replies.

[914.] *Stocking "Wells" Hives.*—Coming from a thickly populated parish to this rural one, I started bees four years ago without any experience—one frame hive. I have now three, one of which yielded forty sections this year, besides the frames (which I never touch), and a swarm unfortunately lost in my absence. *No honey* was stored in the sections after August, though there are quantities of limes about. I have got a "Wells" hive, and about two months ago put a stock into it, strong and vigorous, in one half. The other half is empty, and I have packed up all my hives for winter to-day. I am thinking of dividing this stock, putting half of it in one side with its own queen, the other half with a purchased queen into the other half of the hive early in spring—say, February—and thenceforward feeding both sides till the flowers come. Of course I should fill up the body of the hive on both sides with frames of foundation, and not put on the excluder and super till I took off the feeders. 1. Would you kindly advise me about this? No one hereabouts knows anything of the "Wells" hive. Also, 2. Where can I get a queen most reliably? The other two hives are (*a*) a good stock with a young queen (this hive swarmed this year), and (*b*) a new and very strong swarm of last May, which has well filled its frames, but gave me no surplus honey. I propose to move the "Wells" hive to another site during its dormancy, about fifty yards away. 3. Would it be wise to make (*a*) and (*b*) into three hives, and buy a fresh queen for the third hive thus formed? Though but a novice in my old age, I am very keen as to the advantage of bee-keeping to the rural cottager, and anxious to make bee-keeping as common as gardening in the villages.—RICHARD K. BOLTON, *Fenny Bentley Rectory, Ashbourne.*

REPLY.—1. It is questionable whether you would succeed in getting a portion of the stock in "Wells" hive to accept a second queen as proposed. We should advise adding a swarm on the other side or dummy instead. 2. You would have considerable difficulty in buying a queen in February. 3. Three hives may be made from two by the ordinary method of artificial swarming without the need of buying a queen.

[915.] *Preparing Cakes of Wax.*—I am using a Kilnck wax-extractor, but cannot prevent the wax from adhering to the sides and splitting when cold. This greatly puzzles me, as I want to produce a cake of wax similar to country produce.—WESSEX SAXON.

REPLY.—Cooling very slowly is the preventive of cracking. The wax requires several meltings and scraping off the discoloured part which accumulates on the under side of the cake before it is properly cleaned. If the vessel into which the wax is poured is wetted beforehand, the wax should not adhere to the sides.

CLIPPING QUEEN-BEES' WINGS.

In reply to a correspondent, we must say that the practice of "clipping queens" largely prevails in America, and is, no doubt, of considerable service where bees are kept in large numbers in close proximity to woods, which contain tempting "decoys" to runaway swarms in the shape of hollow trees. In a recent number of *Gleanings* a correspondent of that paper gives forcible expression to the American view of the clipping question, as under:—

"If I were to take my choice of running my apiary with unclipped queens or going out of the business, I think I would step down and out. I do not see how any intelligent bee-keeper can run an apiary of fifty or more colonies, and take any pleasure or comfort with unclipped queens. Let me draw you a real picture.

"I chanced to call on a noted bee-keeper one day in the height of the swarming season. I found him with an assistant looking over two or three bushels of bees in as many empty boxes and baskets, looking out the queen. At another part of the yard were seven large first swarms that had been clustered for over an hour in the hot sun, just getting up steam to take French leave. Such a time! In less than a minute the whole lot was high in the air. I called to the owner, saying that there was a cloud of bees leaving the yard. He looked up and over in the direction where the bees were, and, calling to his help, shouted, 'There, them cussed bees have all left the pear-tree, and are going for the woods. Hurry up! bring that pail of water! fetch me the looking-glass! get the shot-gun! Where is the force-pump? I thought I left it by the wood-shed—run! there, Henry, pelt them with dirt—throw stones among them;' and before the pump could be got in motion or a focus could be got on them by my friend, who was running backward and whirling a large looking-glass over and about his head, or the shot-gun loaded, the bees were moving outside of his place and going across a neighbour's rye-field, with a half-dozen wild and excited men hot in pursuit. As they passed the house of the man who owned the rye I heard some angry and crooked language, and I'll 'bet a quarter' that, if that man had had all of my friend's bees inside a pile of straw, there would have been a fire, and my friend would have had fewer bees. If those queens had had their wings clipped, would such a state of affairs have happened? No.

"Still another, and a picture that is later. Only this past summer one of our neighbours, who is a farmer, and keeps about thirty colonies, lost over twenty nice first swarms of Italian bees that nearly all went in one direction for the hills. Only one of the twenty was found that we know of. The rest, I suppose, found lodging-places, and perhaps will never be heard from.

"Does this pay? I guess not; and when he comes to take off his boxes I think he will see the result of those twenty swarms that were lost. Would this have happened if the queens' wings had been clipped? No.

"I could call to mind lots of just such pictures as this. Yes, friend Root, I want all my queens clipped as soon as they are laying, and, what is more, I will have them clipped. I always carry a pair of scissors, and every queen I come to that is ready, off goes one of her wings. For the last seventeen years I have controlled from one to two hundred colonies, and I have never had a case come under my observation where a queen was superseded on account of her wing being off. I have not lost one first swarm in seventeen years by going off; and this season one day I had over a dozen swarms, and I did not sweat or worry one bit. Every one came back to its own starting-point. Yes, I would go out of the business if I had to run my bees with unclipped wings.—N. F. Boomhower."

SCRAPING SECTIONS.

You want to know, Mr. Editor, how bee-keepers scrape sections. As that part of the work falls to my lot I have scraped a good many thousands. Formerly I scraped them on the table. If you set your sections directly on the table to be scraped, you will find trouble in two directions:—1. When you scrape down your section your knife will strike the table, not allowing you to scrape clear to the bottom of the section. 2. The accumulating bee-glue (propolis) will be constantly in your way. So, instead of setting the section directly on the table I use a block 6 inches long, 5 inches wide, and 1¼ inches thick. Of course, any of these dimensions may be varied. With this block I can rapidly scrape the edges and sides of the sections, clear to the bottom, as the section stands solid on the block, and the bee-glue falls on the table, out of the way. Latterly, instead of a table I use a board, usually a flat hive-cover, holding the board on my lap, the scraping-block on the board. I find it a great improvement. Holding up the arms to scrape over a table is tiresome. It is much less tiresome to scrape in the lap, as the arms hang in an easy position.

Whenever too much bee-glue accumulates on the board, so there is danger of its falling on the floor, I lift the board and dump the bee-glue into a box standing near. For scraping I use a common steel case-knife kept sharp, not holding the knife flat against the surface so that it can cut into the wood, but at right angles to the surface being scraped. While a sharp knife is desirable, a coarse rather than a fine edge is needed. It will pay well to stop and sharpen the knife whenever it needs it. I like to have the sections to be scraped piled in front of me on the table, with the case I am filling at my right hand, sufficiently raised so that I neither have to stoop down nor reach up to put the sections in. Every little extra move counts when doing a hard day's work.

If more than one grade is to be scraped, more than one case must be at hand. As each super is put on the hive, a memorandum is pencilled on one of the central sections, giving the number of the hive, date of putting on, and number of super put on that hive. When scraping I keep a cake of scourine handy, with which to remove these pencil marks. This is easily done by dampening a cloth and rubbing the marks with a little of the scourine.

If I were allowed to select my own time to scrape honey, I would always select a cold day, when bee-glue is brittle and easily removed. It is hardly possible to do as good work when the bee-glue is warm enough to be sticky, besides being a much more tedious job. It is true, the dust from the bee-glue is worse when cool and brittle, affecting one very much as if he had a hard cold; and people peculiarly sensitive in this direction may prefer to have warmer weather and take the sticky bee-glue in preference to the dust; but I would rather stand the dust.

Whatever may be the advantage of using partly drawn sections left over from a previous year, when it comes to the matter of scraping I very much prefer those that have been on only once. Sections which are left on late in the season are much worse to clean than those taken off earlier.

The way in which sections are put into the super has much to do with the amount of bee-glue on them. They will be more easily cleaned if they are wedged up tight in all directions so that no cracks are left. Scraping a single case of sections may seem to be fun; but when I have scraped 1000 or 1500 in a day it seems like work, and hard work too. I don't know that all of my plans are best, and hope that, in the reports that come in from others, I may get some hints that will make the work easier for me.—Emma Wilson, *in "Gleanings."*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *We have several communications for reply in this column, but as the matter is not urgent, we defer them till next week.*—Eds.

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Editorial, Notices, &c.

THE STANDARD FRAME.

Is it the Most Suitable Size for Brood Nests?

After twelve years' trial the Standard frame holds its own as the most suitable size for brood nests in the hives used in this country, and its general adoption by the bulk of our bee-keepers conclusively, as we think, proves that the decision of the British Bee-keepers' Association in recommending its use was a wise one. It is, therefore, with no fear that any appreciable amount of uncertainty on the subject exists in the minds of those best able to judge that we now refer to it, but simply because mention has been made in our columns by a correspondent who, in referring to some remarks we made in a foot-note on p. 449, seems to infer that our support of the Standard frame is prompted by a desire to protect, or to advocate, the interests of hive-manufacturers without giving any consideration to those of the bee-keepers.

We are not concerned to prove the contrary, believing as we do that the honesty of our motives may be trustfully confided to the readers of this *Journal*. But what we *do* wish to point out, among other things, is the fact that a 16 × 10 frame is a very old friend, not an "improvement" in the beehive of to-day.

As stated in the foot-note referred to, we have no desire (nor have we any right) to try and place restrictions either on those who, in the exercise of good sense, make their own hives, or on beginners whose aim is to "improve" the existing order of things in the bee-world. Being ourselves perfectly aware that different localities and varying surroundings necessitate different treatment, they may make their hives to hold ten frames or forty; the said frames may hang parallel to entrance, or at right angles thereto, with single walls or double, outer cases or otherwise. If of a fanciful turn, they may, so far as we are concerned, follow the precedent of the genial old sea-captain, who in his retirement turned bee-keeper, and the pride of whose declining years was a beehive, made by himself, in which the bees trotted in and out through the mouth of his favourite naval hero, whose image, carved in wood, formed the hive front!

No, we desire to place no restriction on hive-improvement, or upon amateur hive-makers, but, in the name of common sense, do not let us be blamed for deprecating, as forcibly as we can, any lessening of the very obvious advantages of a uniform frame for brood chambers, so that the hive—be it a five-guinea one, or a humble adaptation of a sugar-box costing fourpence—may have frames interchangeable from the one to the other, without trouble of any kind. It is all very well for a few of our correspondents to urge that the Standard frame is too small, but we have readers—perhaps, quite as numerous—who just as earnestly assert that it is too large, and declare that they get better results by using shallow frames in both brood and surplus chambers. Moreover, the important fact must be borne in mind that a frame suitable for a good district and a good season would not do at all for a poor district in a poor season. Hence it is that there is no such thing as a Standard *hive*, and, for general adoption, a frame had to be chosen of such a size that, by adding to or taking from the number used in each hive, it might be made suitable for all localities and seasons.

Apart, however, from all personal views, and setting aside for the time our knowledge that the Committee of the B.B.K.A. gave long and anxious consideration to all these things, it is an incontrovertible fact that the best results ever obtained by the use of either larger or smaller frames than the Standard, has been equalled—to put it no more forcibly—by bee-keepers who use

only the latter. This being so, surely all will admit that the advantage to bee-keepers of a frame of uniform size is enormous, simply because of its interchangeability with every standard frame or comb in every hive in the kingdom—the amateur hive-maker especially participating in these advantages by being enabled to buy his frames — ready cut by machinery — so cheaply as not to be worth his while to make them at home, and knowing exactly what size of frame he will receive for his money from whatever manufacturer he may choose to order them.

The adoption of a uniform frame throughout the entire kingdom was seen to be so advantageous that the most prominent authorities of the time at once realised its importance, and not a few made sacrifices in the way of bee-plant rather than allow personal considerations to stand in the way of what was considered to be for the greatest good of the greatest number. The then editor of the *Bee Journal*, Mr. C. N. Abbott, himself a manufacturer, who had a frame known as "Abbott's Standard" (by a curious coincidence as near as may be 16 × 10 in dimensions), made no outcry in defence of that frame, but loyally joined the Committee chosen to decide the question of a British standard.

But beyond this, there are a few facts which those who may now be inclined to take the line adopted by our correspondents, 1638, p. 467, and 1619, p. 449, should be made acquainted with, viz., that those of us who were comparatively old hands at bee-keeping fifteen or twenty years ago, well remember that it took four or five years—during which time the urgent need of a "standard" was more or less constantly mooted—before the question was definitely settled. A short extract from a communication to this *Journal*, written seventeen years ago, is interesting, as showing the impressions of the period. The writer says :—

"I am sorry to see that the question of a standard frame seems to be at a standstill, as I cannot but think the adoption of such a frame would greatly tend towards what I take to be the object of all who have the good of the pursuit at heart—the raising of bee-keeping into an industrial occupation, which can be pursued on ordinary principles of trade with a good prospect of profit. . . . If bee-keeping be really a profitable pursuit, there must be a price at which it will answer to buy established stocks; but so long as every such purchase introduces a new-sized frame into the apiary, bee-keepers will be so unwilling to submit to this inconvenience that this price will be little, if any, more than the value of the bees and comb for transferring into the hive used by the purchaser, a mode of procedure which must militate greatly against the interests of the buyer as well as the seller.'

But there was, also, so long ago as the date on which the above extract appeared (May 1st, 1876), several hives in use—Abbott's "Standard" among them—with frames practically of the same dimensions as the one our correspondent (on p. 467) thinks it advisable for the bee-keeper of to-day to adopt in preference to the British standard. Now, considering that all the hives referred to as being in use in 1876, holding frames about 16 × 10, have been discarded in favour of those with standard frames, the idea of reverting to a 16 × 10 frame as an improvement is "getting forward by going backward" with a vengeance, and it is in the light of facts doubtless not known to those whose advent as bee-keepers is of later date that we pen these lines for their information.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee meeting held at 105 Jermyn Street, on Wednesday, November 15th; present, Rev. Dr. Bartrum, Messrs. W. B. Carr, J. Garratt, H. Jonas, J. H. New, W. J. Sheppard, E. D. Till, and J. M. Hooker, *ex-officio*, with Mr. John Huckle, Secretary.

Communications were received from Mr. W. O'B. Glennie (Treasurer), Hon. and Rev. H. Bligh, Captain Campbell, Rev. G. W. Bancks, Major Fair, Mr. W. Lees McClure, and Mr. F. H. Meggy, regretting their inability to be present. In the absence of the Chairman (through indisposition) and the Vice-Chairman, Mr. Jonas was voted to the chair.

The minutes of the last meeting were confirmed and signed. The statement of accounts for the month ending November 13th was approved and passed.

Letters were read (1) from Mr. Palmer of Ludlow, in reference to the awards of merit to the exhibits of honey sent to the World's Fair at Chicago. It was resolved, "That, in consideration of the excellence of these exhibits, certificates be granted to each exhibit that had received a 'Highly commended' award." The Secretary was instructed to prepare the certificates and forward them to the several exhibitors.

(2) From the Secretary of the Bristol Association, stating that he had overlooked the dates fixed for the Second-class Examination, and inquiring as to whether provision could not still be made for the examination of one of the members of the Bristol Association. Resolved,

"That the Secretary do state that the Committee regret not being able to comply with the request of the Bristol Association."

(3) From the British Dairy Farmers' Association, expressing the thanks of that Society for the use of the B. B. K. A. staging and for the grant promised towards the prizes offered for honey at the annual Dairy Show. Resolved, "That the promised contribution to the prizes offered by the British Dairy Farmers' Association be paid."

The Chairman reported that the proceedings connected with the presentation of honey to the Lord Mayor were a great success.

Resolved, "That the best thanks of the Association be given to Sir James Whitehead for the able way in which he had introduced the deputation to the Lord Mayor, and for the kind interest he had taken in promoting the interests of bee-keeping."

Mr. Till reported that he was in communication with Sir James Whitehead in reference to the publication of a letter in the *Times* newspaper, bearing upon the work of the Association.

The Committee considered the advisability of bringing the work of the Association under the notice of the City Companies, and after much discussion it was resolved "That a letter be prepared and signed by the Chairman, setting forth the aims and objects of the Association, to be submitted for the consideration of the governing bodies of the several Companies."

It was resolved, "That the several affiliated Associations should be requested to communicate with the several agricultural and horticultural societies in their respective districts, urging them to give their support to the promotion of bee-keeping by offering prizes for competition at their annual exhibitions."

Resolved, "That the annual general meeting of the Association be held on Wednesday, February 21st next, subject to the approval of the President."

IRISH BEE-KEEPERS' ASSOCIATION.

On the 19th of October Mr. Gillies, a member of the Committee, delivered an interesting and instructive lecture on bee-keeping, illustrated by a series of lantern slides, under the auspices of the Association. There was a very fair attendance, and the audience listened throughout with the greatest attention.

The Committee met on the 7th of November. Present: Mr. Read (in the chair), Dr. Traill, Mr. T. B. O'Bryen, and Mr. Chenevix.

IS THE USE OF COMB FOUNDATION PROFITABLE?

Interesting Experiments at the Michigan State Apiary, U.S.A.

(*Concluded from page* 456.)

From the figures given in the last column of Table B, we find that the colonies hived on comb gained in all more than 11 per cent. over those hived on starters, and that those hived on foundation gained more than 13 per cent. over the same. But, if we examine with reference to *comb honey* only, we find that colonies "A" (those on comb) gain less than 5 per cent. more than colonies "C" (those on starters), while colonies "B" (those on foundation) gain more than 17 per cent. over "C." But it may be said that "C" has an undue proportion of the weaker colonies, which is true; still, if we turn to Table C, and consider only the strong swarms in each group, we find that "A" gains 9½ per cent. more than "C" in comb honey, and "B" gains 42 per cent. more than "C!" But, strange to say, taking the light swarms in the same table and column, the positions are exactly reversed—"A" gains nearly half of one per cent. over "B," while "C" gains nearly 32 per cent. over "B." If space permitted, it would be interesting to inquire why the difference in the weight of the colonies should cause this reversal in their position in regard to the amount of comb honey produced.

Referring again to Table B, from the figures given in the third column, where the gain for the first period is given, we deduce that "B" gains during that period more than 53 per cent. over "C," while "A" gains more than 68 per cent. over "C;" but during the second period the figures show that for that period the positions are exactly reversed, while for the third period the positions as to relative gain are again changed, "A" making a spurt and leaving "B" in the rear.

Referring again to Table C, we find that the strong colonies invariably gain the more in the first period, while the light ones take a decided lead both in the second and the third periods; in the amount of comb honey for the entire time in each group, the strong colonies have a decided advantage, and so in groups "A" and "B" in amount of total gain, but in group "C," in this point, the weaker ones are far in the lead. But this sort of comparison might be carried on almost endlessly.

If we examine Table A, we find, as was to be expected, that the results in the cases of some individual colonies do not always accord with the general results, yet sufficiently so, I think, to warrant us putting some confidence in the general results, so far as they go. I say so far as they go, for the test was for three weeks only, and *time* appears to be an essential element in the experiment. The colonies that are strong in numbers as compared with the weak, and those aided with comb or foundation as compared with those left unaided, are soonest "out of breath" in the race, or, perhaps, the luxury and wealth of numbers and resources prove destructive to energy and ambition; and, on the other hand, straitened circumstances, whether it be be from a lack of numbers or of resources, arouse vigour and persistence in a determination to supply the lack. At least, that is what the tables seem to teach, and we can only guess what the result would have been had the tests covered the whole of the honey season, instead

of the last half. Many and varied experiments must be made in order to arrive at the exact truth in these matters. Let no one fear that apicultural experiment stations may be either too numerous or too well equipped. To one who has entered it, the field looks exceedingly large.

For the rest, I must be content at this time to close with a summary of the results pretty clearly disclosed by the experiments conducted in the manner and for the time stated; but I wish first to invite and urge all who are interested in the matter to make suggestions and criticisms, both upon my method and inferences, and let them not, out of a concern for my feelings, so refine their strictures that they lose all their point, and with it their effect. That is not the way, as too many bee-keepers seem to think, to get at the truth. At all events, I am not very thin-skinned, and I believe that, at least in these experiments, I am willing to look at the naked truth. I know now that, in some respects, my methods have been faulty, and no doubt they have been so in other points than those which I have discovered, and what those other points are I am anxious to know.

In this summary, as elsewhere, when I speak of gain, it is not gain per colony, for the colonies vary in strength, but per pound of bees, which seems to be the only just way.

If, then, we may trust our tables, they show for the last half of the summer season:—

1. That for profit, foundation in the brood chamber for swarms has a decided advantage in point of surplus comb honey over both drawn comb and frames with starters only, that drawn combs stand second, and starters third.

2. That in point of total gain in both brood chamber and surplus, the same order holds, and to nearly the same extent.

3. That fairly strong colonies show a very decided advantage over light ones in point of comb honey surplus, and also to a small extent in the total gain.

4. That light colonies sustain their rate of gain in all cases better than fairly strong ones.

5. That swarms on starters only sustain their rate of gain decidedly better than do those on comb or on foundation.

6. That of the light colonies those on starters are decidedly more profitable than those on either comb or foundation.

I ought to explain here that each swarm was hived on a brood chamber equal to that required to hold five Langstroth combs.—*American Bee Journal.*

DEALING WITH FOUL BROOD.

Referring to this question the Editor of the *Bee-keepers' Review* (American) says:—

"If I owned a large apiary and only a few colonies were affected with foul brood, and I knew they were the only ones diseased, and that by burning them I should free my apiary of the pest, I should perform the burning act rather than take the risk of curing the few diseased colonies. If I should find a large proportion of my apiary afflicted with the disease, I should cure the diseased colonies at the risk of infecting the others. I say at the risk of infecting the others, as there *is* a risk, but an intelligent bee-keeper who understands the disease and knows how to cope with it may make the risk a very small one. To destroy a large portion of an apiary when by perseverance and determination, coupled with knowledge and caution, it can be saved with a very slight loss, is not good generalship.

"The most of my readers know that Mr. R. L. Taylor has had a long and wide experience with foul brood; in fact, he has reached that stage where he no longer fears it. If it comes he feels that he can handle it to such a certainty that it will not get the start of him. When I was over there last summer I asked him if his apiary was entirely free from it. He said there were two or three colonies in which it was still present. He added that he might have been entirely free from it had it not been that he had had on hand a large lot of empty combs, and some of them, he knew not which, had contained foul brood, and he wished to use these combs. He preferred to use them and keep a close watch, treating the cases of foul brood as they developed rather than destroy the combs or even melt them up into wax. And this from a man who owns a foundation machine."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AND BEE-KEEPING IN CARMARTHENSHIRE.

[1637.] When I moved here twelve months ago my bees were not strong either in numbers or food, for I had robbed them close of their surplus at end of July, 1892, and the heather yielded very little that autumn. It was therefore more by luck than good management that nine of the ten came safely through the winter on candy food.

This being my first season in this district, I was anxious to test its honey-yielding powers,

and, on the whole, I am quite satisfied. I have taken three hundredweight from my nine stocks and increased to eleven. The quality of the honey is so good as to have received recognition at the hands of several judges, including our editors. Frame hives are kept by some, but the skep and sulphur pit seems to have many followers among the old hands. I have saved many stocks by driving, and finding the condemned bees a home in frame hives of my own or those of others; for, besides my own bee-work, I have done a little superintending about the apiaries of some fourteen bee-keepers in the neighbourhood, besides giving advice by post. Such work has been done, of course, gratuitously, and after my ordinary duties were over; but I have been amply repaid by knowing that bee-keeping has been a little benefited.

Bee-keepers here gave me a poor account of the district for honey. One in particular, who was supposed to be working on the modern system, showed me a super which had been on the hive three years and nothing stored in it. I took this hive in charge this year for the owner, and have taken from it seventy pounds of good honey and left about forty pounds for winter. In another place I found a hive holding seventeen standard frames which had been left almost untouched for years, and with which the owner intended to try some plan for smothering the bees in the sulphur pit, as there were very few bees in it. I found the frames nearly solid with honey, and the queen with almost no spare cells to lay eggs in. I had to use a hatchet to get the frames out, and the owner would insist on smashing the combs in the old way to get the honey. The great drawback seems to be that people who keep bees never read, or have read, anything about bee-keeping, and consequently know little or nothing of what bee-management on the modern plan means.

Through the little I have been able to do by way of showing the better way, several have promised to begin next spring, and others who are already skep bee-keepers, but declared that little or no honey could be got here, are also going in for frame hives.

One gentleman of an entirely different stamp is favourably impressed, and, by way of preparing to start bee-keeping next year, is going to spend the winter studying several of the best books which I have got for him. I expect he will come to the front and be very successful, for he not only has the ability, but knows how to begin in the right way—viz., by getting to know all about bees before he starts keeping them.

If I have not tired out your patience, I would like to say a word, in conclusion, on the proposed change in the thickness of shallow combs in surplus chambers. I am glad no more change is needed than a wider "end," as every change in appliances that costs money is a disadvantage, to our humble bee-keepers especially, and the interests of our cottager bee-keepers should be considered. — A. Hamer, *Llanarthney, Carmarthenshire.*

BEES IN SOUTH SHROPSHIRE.

[1638.] With reference to "The Heathen's" letter (1621, p. 450) I beg to state the five frames I took for driven bees weighed thirty and a half pounds, and the remaining eleven I judged at forty, not weighing them, but I dare say they were heavier than stated. Though I did not say they were full, does "Heathen" suppose that eleven frames, 16 × 10 (full), would only weigh forty pounds? "Heathen" says "he never had a brood nest to give him surplus of any kind, either top or bottom." I can't understand what is meant by this. What I tried to explain was, that hives with most frames allowed for breeding gave the best results.

My letter should read, "Most of my hives take 16 × 10 frames," not sixteen frames, as I have only a few of those dimensions. From the hive mentioned I took twenty-four sections, which weighed twenty-seven and a half pounds in crate (of heather honey), and also most of the honey in sixteen frames, as before stated. I need not say the hive was powerfully strong, nor did they want driven bees. I used those to put to such swarms as had been hived on starters.

When "Heathen" talks about seven crates of sections piled up, he is wide of the mark, for the hive mentioned is 24 × 21 above frames, and will take a crate of forty sections, and that was the one I used, with two crates of fourteen each on the top, and I took sections off as fast as they were finished.

Perhaps his feathers may rise again when I tell him that I put a crate of forty ready-combed sections on second week in June, and they were finished in a few days over a week. Another hive I had on large frames filled me forty-two sections by first week in June, and gave an eight-pound swarm, which I sold for 1*l.*, also twelve of the sections were finished, and I sold same week for 11*s.*

We have had plenty of bad seasons here, but this time it has been a hit. As to the sugar-feeding question, which has been referred to, I have only bought three dozen pounds since October, 1892. One dozen was used for candy in spring, and the rest for driven bees this autumn, and my colonies number close on forty.

As to metal ends for shallow frames, I never use any; I distance by my eye. My shallow frames are 16 × 5, with seventeen-inch top bar, and seven-eighths wide. Referring to your foot-note to 1619 (p. 449), I am quite aware of the importance of a uniform size of frame for appliance dealers, but how many like myself make their own hives, and how many improvements have there been made in all ways since the standard frame was adopted? Twelve years has put quite a new feature on the aspect of bee-keeping. — Phil Jones, *Church Stretton, November 13th.*

[Our correspondent is entirely wrong in assuming that we attach any special importance to the interests of appliance dealers in

our advocacy of the retention of standard frames. The only interests we have in mind are those of kee-keepers and bee-keeping, and we repeat that to interfere with the external dimensions of the "standard" as the brood frame for use in this country would be to take a step backwards toward the condition of almost hopeless confusion as to hives and frames which existed prior to its adoption twelve years ago. We have also referred to the matter on another page.—EDS.]

"MIXED."

[1639.] In your issue of November 9th (page 450), "The Heathen" refers to my letter (1602, p. 428) on syrup honey (?). It is pleasant to find a man of *that* denomination able to discover, in a simple sentence of mine, where an ellipse occurs, and with intelligence enough to supply the suppressed words! If "The Heathen" is a young man, and continues assiduously his analysis of sentences in impromptu, simple letters, then I think he may be said to have a "future" before him, if not of the most distinguished character. Devotion to such a task implies that he has "time on hand," even for the little matters in the small letters of other people.

"The Heathen," very commendably, wishes for light on the autumn and spring "adulteration trick and fraud," but there appears to me too much *insincerity* in his letter to afford me hope that he would receive benefit from any little information I could give him, especially as he seems to consider himself a sufferer from mental "obtuseness."

But, sirs, "The Heathen" will pardon me for inferring, from his natural acuteness, that I could not add anything to his knowledge in syrup practices. No doubt "The Heathen" (I wish he would give himself another name) was once, like myself, "as innocent as a child" of this "adulteration dodge," and I will not trouble to interrogate him as to whether he has maintained that innocence.

My statement in my other letter proves that I have no actual sin of this kind to regret. I am sorry to hear that, after reading my letter, "The Heathen" got a little "mixed;" but he does not say in what respect. Was it that a struggle had commenced in his mind for a change from his *positive* "obtuseness" to one in the *comparative* degree, or had he formed a "mixed" purpose for future practice? Whatever, Mr. "Heathen" (do get another title!), you do in the future, don't get "mixed up" with fraudulent honey practices. Let the public, as far as you yourself are concerned, have the honey just as the "little busy bee" manufactures it in her own workshop.

And now, Messrs. Editors, let me say that the too general silence of bee-keepers on this subject either implies *guilt* or *ignorance*—I hope the latter. But there are, no doubt, numbers of them who are practising the "adulteration trick" for *money* returns merely, and, therefore, because it pays, they deceive and rob the public. Honest bee-keepers are looking to you, sirs, to instruct honey-purchasers how to detect this spurious article, and in that way really to help the *trickless* of the bee-keepers.—HONESTY, *November 14th.*

LECTURERS' ERRORS.

[1640.] In reply to Mr. Hill (1629, p. 457), I beg to inform him that it was the lecturer who was in error, not your correspondent "Bee," for I believe I was present at the lecture referred to. The lecturer also told us that queens would live four or five years and lay from 2000 to 3000 eggs per day. I admit a good queen will lay the number of eggs per day at some seasons, but will she do it for the four or five years she lives? This statement, I think, is very misleading. I also beg to differ from Mr. Hill on another point, for I consider your correspondent "Bee" (whoever he is) to be a true friend to Associations, nor can I see how he casts a slight upon the B. B. K. A., for that body does not pass second-class experts as lecturers, and I think they ought to pass some examination before being allowed to go out lecturing or giving technical instruction under County Council auspices. It should be remembered that a man may be a good bee-master and yet not a competent lecturer on scientific subjects.—ANOTHER BEE, *Derby, November 17th.*

BEE-KEEPING IN HAMPSHIRE.

[1641.] My bees have done better this year than for several seasons past. They wintered well with only just enough stores to carry them through. I fully expected feeding would be required in early spring. The fine weather in March, however, gave the bees a good start, and when the fruit-trees bloomed the bees began at once to store surplus honey (the first surplus I ever got from fruit-trees), and continued to store rapidly till the sainfoin was cut. Clover there was none, owing to the drought. Then there came a stoppage, no honey coming in for nearly a month. After this the bees made a fresh start, and kept on gathering nearly through the month of August, which is very uncommon here as we have no heather about. One hive yielded ninety pounds in sections besides having nineteen frames in brood nest well filled. The only swarm I got was a runaway one which I followed for about four hundred yards and hived on August 8th. This swarm gathered enough stores to winter on. On the whole it has been a good season in the district. Bees have done well since supers were taken off, so no feeding has been wanted. I think it a great pity cottager bee-keepers cannot be better informed as to the advantages of the frame hive. They are sometimes persuaded to try them, perhaps winning a hive as a prize, but are not instructed how to use it and so it results in failure. I have this

year examined a few of such and found instances of swarms being put into them and never looked at again to see how they were getting on; the greater part of the foundation guides had fallen down, the bees then working their combs cross-ways of the bars and making it totally impossible for one to put them straight. No surplus honey could be taken from them and in some cases the bees were working in the roof. Result—they declared they would never have another frame hive as a gift, but would destroy the one they had in use. Think of the good effect it would have if one intelligent man were taught how to manage a frame hive well—he could help his neighbours and one might then go a distance and instruct them on all points. A lady residing six miles from here, whose bees I managed for several years, has had more honey this season than she has for years. I intend trying the "Wells System" next year, having prepared two hives and put driven bees into the the same; they have gone into winter quarters well prepared for 1894.—F. G. AYLING, *Privett, Alton, Hants.*

WIDE ENDS FOR SURPLUS CHAMBERS.

[1642.] I was very pleased, Messrs. Editors, to read your leader on this subject in last week's *Bee Journal*, because I think it expresses the opinion of those bee-keepers who principally work for extracted honey. The wide end with the seven-eighths bar is just the thing. I have myself a quantity of ready-built combs, and to change the width of the top bar would mean a considerable loss. Then, again, as one of the gentlemen affirmed at the recent *conversazione*, there is a considerable advantage in being able to space the frames at one and a half or two inches at will. With all due respect to Mr. Garratt, I do not think that even a novice should find any difficulty in uncapping the wide comb in seven-eighths frame, provided he used a pair of sharp knives kept hot by means of the petroleum stove, which can now be purchased at so reasonable a figure.—WILLIAM GEORGE KIGHT, *November 18th.*

A CAUTION.

THICK COMBS IN SURPLUS CHAMBERS.

[1643.] Before bee-keepers are persuaded to adopt a wider set-space and metal ends expressly for wide or extracting frames, it may be advisable to consider that the progressive development may really result in a space of the opposite extreme—an extracting frame spaced slightly closer than the broad gauge, with a depth, perhaps, no greater than the 4½-inch section. The honey in shallow cells will be ripened more quickly, the surface of the finished combs more regular, while the uncapping and extracting processes will be greatly simplified and more expeditious, with far less honey left behind than is the case with deep cells.—S. SIMMINS.

[We think the experience of those who have much extracting to do each year is so conclusively in favour of heavy combs in surplus chambers that there is not much fear of any such tendency towards retrogression as our correspondent suggests. In practice it is found that far more time is taken up in uncapping combs than in the actual extracting, and it does not require much skill, with a good machine, to remove all the honey from the combs. A frame of sealed honey of the dimensions described above would probably contain about two pounds of honey, as against about six pounds in a thick comb of the ordinary shallow frame.—EDS.]

THE WELLS HIVE.

[1644.] I have myself tried the Wells system, with a carefully constructed hive, and it proved quite a success, having given me 160 pounds surplus, besides a number of ready-built combs. The bees propolised the perforated dummy during the honey-flow, but I did not see that it interfered at all with their working in the upper chamber. Thank you, Mr. Wells! I intend trying three hives on your system next year. I have been looking for Mr. Wells' report week after week. The season in this district has been the best since 1887.—W. G. K., *Chiseldon, Swindon, November 18th.*

[Mr. Wells has promised to forward his report for this season shortly.—EDS.]

A CHESHIRE REPORT.

[1645.] I have seen no news about Cheshire bee-keeping in your *Journal*, so I thought I would send a line to show what my bees have done this year. I had seven hives, and from them got 400 pounds of extracted honey and fifty good sections, besides increasing my stocks to ten by artificial swarms. The honey is all from white clover, and being of splendid quality, I have found a good sale for it. In fact, I may say that, after keeping bees a good many years, I have never yet had a better season.

Would it be best to put two of my single stocks at once into a "Wells" hive I have just had made, or wait till next year and stock it with a couple of casts from skeps?—A. B., *Congleton, Cheshire.*

[We should stock it at once with the two lots if they have young queens.—EDS.]

GLUTTONOUS BEES (?).

[1646.] I was staying with some friends last September, and happening to remark that the "lime" honey was just over, they told me that they had a lime-tree in their garden which had been visited by thousands of bees, "and they ate till they burst" was the expression used. My informant said, "The ground was covered

with the dead bodies, every one appearing to have burst." They would have shown me the corpses, but a heavy rain had washed them into the ground. May I ask if any one has had this experience, and can account for it?—CUTHBERT BEDE.

[We are as much astonished to hear that any of our usually well-behaved hive-bees should become such dreadful gluttons as we are to hear that the rain could "wash their corpses into the ground." Perhaps some reader may be able to throw further light on the subject, but our personal experience of bees and lime-trees affords no evidence of any such dreadful effects of the bees' over-indulgence, and we are forced to the conclusion that the description of what occurred, as given by our correspondent's informant, is a little highly coloured. It should not be forgotten that bees do not *eat* the food they gather in the ordinary sense; they only carry it off to their hives.—EDS.]

A BEE EPISODE IN CO. KILKENNY.

[1647.] I venture to write a few more "notes" from Co. Kilkenny, and hope they may be interesting. They refer to the bees of a farmer living about three miles away from me. I was resting, after returning off duty one fine day in the month of June, 1891, when this farmer came to my house, and pressed so hard that I had to go with him to see what was the matter with one of his skeps. On our arrival in his garden, I saw at once what was the matter. The riser, or "eke," had broken down at one side, and the honey was running about the flag on which the skep stood. I told the man to bring me two empty hives, and that I would see what I could do. The conveniences, such as they were, were quickly on the spot. I set to work by turning up the hive, after giving it a few whiffs of smoke, and such a mess it was—bees, honey, and combs all pressed to one side of the hive.

I commenced to drive the bees, and succeeded in getting all that were not embedded in the honey, or imprisoned between the combs. I then took out a comb, brushed off the besmeared bees into an empty skep; this process was repeated until I had all the combs in the hive on a large dish, and all the sticky, half-drowned bees in the hive. The driven bees were quickly joined to the flying bees that had collected in the hive placed on the old stand to receive them. I now brought the old hive, with its contents, and emptied it on a newspaper in front of the old stand. Of course the bees could not fly, but after a while those that had gathered in the hive placed to receive them turned out in force, and licked their disabled comrades almost dry. Strange to say, during all these operations I never saw the queen, but after the hiving process we had the satisfaction of hearing her pipe or call.

We retired to have some refreshments after the job was complete, which was much required by me, for I had got over-warm while working. After the refreshments were over we had another look at the bees before I left for home, and it was surprising to see how rapid the cleaning process had proceeded, so that the heap on the paper had been considerably reduced. I must not omit to mention how little the farmer knew and how lightly he thought of the operation, when he thought the experience would not be much more than hiving a swarm, and that he could remain bareheaded and even without a vest. The bees began to fly about him, and gave him a few stings, when he began to talk to the bees in the following manner: "Poor fellows! poor fellows! don't touch me," but he had to retire very soon to a respectful distance, scratching his grey hair. He is a pretty old man, and a bee-keeper for many years. Two days after the operating on this hive I chanced to meet the farmer. "Well," said I, "how are the bees going on?" "All right; working away, and the lot you left on the paper came to life again and went into the hive," was the reply. This hive came through the winter of that year all right; 1892 was bad, and it gave no swarm. I met my friend not long since. "Well," said I, "how did that hive of mine go on with you this year?" "Oh!" said he, "it was the most extraordinary hive I ever had, and I have had bees a long time; it gave me three swarms in one day!" I questioned him very closely about these swarms, and he positively declares that he was in the garden when the bees began to come out of the hive, and saw them settle in two clusters about three or four yards from each other, and before these two had quite settled another swarm issued out of the same hive before his eyes, and settled in an apple-tree some yards from the others. All were fair-sized lots, he said. When questioned as to whether the hive had swarmed this year before, he assured me that it had not, that these were the first swarms. "Perhaps," said I, "a swarm came out of some other of your hives at the time, or one of these came into your garden from somewhere else at the time the first swarm took wing." "No," said he, "I was looking at them all leaving the hive." "How is the old hive getting on since?" I said. "I smothered it in August, and sold the honey in Carrick to a dealer," was the cool reply. "Was it heavy?" said I. "No, it was the worst I had of six," was the answer.—M. K., *Co. Kilkenny.*

BEES AND THE BABY.

[1648.] A lady writes to me from Grahamstown:—"We have got into our house, but find it infested with bees. They live under the floor of one of the rooms, and the workmen, by way of getting rid of them, stopped up their entrance-holes. In consequence, they are rushing and buzzing in at every cranny. A man is coming to take up the floor and sulphur them, for we cannot live so. We have all been more

or less stung; only the baby escapes, which is a wonder, for she tries to catch them to play with. We wish we had you out here to tell us what to do." How could I have helped my friend?—CUTHBERT BEDE.

[It is very evident that the baby escaped being stung because it had no fear of the bees, while it is more than probable that its elders were very much afraid, and got stung in trying to drive them out of the house.—EDS.]

Queries and Replies.

[916.] *A Beginner's Troubles.*—Having read in the *B. B. J.* of the kind and efficient help given to amateur bee-keepers, I am hoping you will pardon my troubling on the same subject as I am in difficulties in many ways about my bees. Having only kept bees for two months, I have had little experience. I have now two bar-frame hives, one of which contains a driven lot of bees, hived September 9th. I transferred combs (containing brood and a good quantity of sealed honey) from the skep to five frames, placed them in the middle of the hive, and on either side a frame of foundation comb, and gave them fifteen pounds of autumn syrup. 1. Is there any doubt that they will winter safely on that? I have since discovered that two of the combs have slipped out of place. One is leaning against the comb next to it (an upright one), the other also leaning against the one next to it, the lower end having slipped and touching the bottom of the hive. 2. Is it necessary to put them in place before breeding begins in the spring, and how should I do it? There are dummy boards on either side of the frames, and chaff cushions fill in the side vacuums. They have on top an unbleached calico quilt, a carpet quilt, and a bottomless box with calico tacked on, and half filled with chaff. 3. Have they sufficient warmth for the coming winter? There are ventilating holes, one at the front and one at the back of the roof. Thinking to give them more air I have placed a piece of perforated zinc four inches wide at the entrance, having cut a one-inch opening in it. 4. Do you recommend my keeping this on through the winter? or, if not, what width entrance should be kept? 5. How early should spring feeding be begun? My other hive is a thin-walled one, and covered with a wooden case. The entrance at present is open one inch. 6. Is this enough through the whole winter?—B. A. WREY, *Barnstaple.*

REPLY.—1. In transferring bees and combs to a frame hive without having any previous experience, we fear you have undertaken more than was quite wise, and we can say no more, so far as safe wintering, than that fifteen pounds of syrup and "a good quantity of sealed honey" will sufficiently provide the bees with food. 2. Yes; the combs should be seen to at the earliest opportunity. In fact, they should have been examined three or four days after transferring, and have had the tapes (used in "tying in") removed if found all right. In lifting out the broken-down combs a knife must be used to sever any attachments, and the other frames drawn back on each side before inserting the hand to lift out the combs. A little smoke will keep the bees quiet while doing this. 3. Under the circumstances we should add a little to the covering below the chaff box. 4. A half-inch entrance will be wide enough for such a stock all the winter, and no perforated zinc need be used in winter. 5. About beginning of March. 6. Yes.

[917.] *Moving Bees.*—I thank you for your kindness in so fully replying to my questions in your issue of October 26th, and shall act upon the suggestions given. I have now the chance of buying half-a-dozen hives. They are located about a half-mile and some about three-quarters of a mile away. 1. Can I move them at once, or is it too late in season? 2. Will it be necessary to fasten the frames in any way?—WILFRED SHEPHERD, *Tadcaster.*

REPLY.—1. They may be moved at once, but if convenient we should leave the hives on their present stands till cold weather has continued for a couple of weeks before moving. 2. If the hives were borne carefully on a hand-barrow, or a stout pole carried between two men, no fixing of frames would be needed. Two or three hives could be carried at each journey.

SLIP OFF AN' GET SOME HONEY.

The days are gettin' hazy with the smoke o' forest fires,
An' they're warm, as well as lazy—for the mockin' bird perspires
A-singin' in the blossoms—how they strain their tender throats,
An' the hot sun shinin' on 'em makes 'em give us melting notes!

It's jes' the time for dreamin' of the cool an shady nooks,
For rollin' up your breeches for a splash into the brooks;
It's wishin' time, it's fishin' time—it's time to take your ease
Where the locust sings soprano to the tenor of the bees!

O writer, leave your inkstand an' your drowsy, frowsy desk,
An' get out into the country, where the world is picturesque!
O man dead set for money! O toiler in the strife!
Slip off an' get some honey that will sweeten up your life!

—*Atalanta Constitution.*

SAFE INTRODUCTION OF QUEENS, &c.

Mrs. Atchley,—If you know of a *sure* way to introduce a queen to a colony that has been queenless at least three weeks, let us have it, no matter how much trouble, just so it is *absolutely safe*.

You mentioned in the *Bee Journal* some time ago about keeping a good breeding queen on three Langstroth frames, so she would live long, &c. Won't the bees swarm out, or supersede, or kill the queen if she is restricted with excluder zinc? Bees are always up to some new trick that I know nothing about, and just keep me on a jump to know what to do. I wish you would tell us in detail how would manage such, and nuclei as well. I am sure there are many readers of the *American Bee Journal* that are green as grass. I know I am, and such lessons (as the above) will be appreciated very much. —D. LINDBECK, *Bishop Hill, Ills.*

Friend L.,—I only know of one *absolutely* safe way to introduce a queen, and that is by the hatching-brood plan. Take two or three frames of brood just beginning to hatch, and frames that have *no* unsealed larvæ, as it will die and smell badly, and the bees will have a bad job to clean up the combs, but no other damage will result from the dead larvæ.

Place these combs in a hive or nucleus, give ventilation and a sponge of water, and confine them this way for four or five days, queen and all, together. Then, in the evening of the fourth or fifth day, take them out to a stand you wish to occupy, and give them a small entrance at first, and they will soon work off nicely, and your queen will be safely introduced without any danger whatever. I introduced a fine imported queen this way, O. K., a few days ago.

In regard to keeping breeders on a limited space, I will say that the bees do not try to supersede her, nor do I let them swarm, nor do I allow them to begin preparations for swarming, as I am into the hive at least once a day, and some days a half-dozen times, and you may be sure I know the contents of such a hive.

Yes, I know that bees are apt to be up to some new trick, but I usually get after them with a sharp stick when they begin to plank on me, and they soon cool down. To lay joking aside, I *make* my bees do as I want them to do, just as much so as my cow and horse. There is no use in letting a fine breeder lay herself to death in a year or two, as such queens as I want for my breeders are very prolific, as this is my first mark to look for when selecting a breeder, and, should I begin honey-production again, I should look altogether upon the prolificness of my breeders, together with honey-gathering qualities. Viciousness or fighters would be prized by me, and *never would I* try to breed this trait from my bees. As friends, I tell you it *means honey*. If I were running a yard for honey, I would wish to get the worst fighting bees that I could get. Dear friends, do not think strange of this, for I just mean it.

Friend L., I have gone off the track from your questions, but I ran out on breeders, and it naturally led me in that direction. If anybody has a bad, fighting Cyprian or Holy Land queen, just send her to me.—JENNIE ATCHLEY *in "American Bee Journal."*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

N. McD.—*Instructions for Making a Frame Hive.*—1. As a beginner, it is very needful that you should purchase some such treatise as the *Guide-book* (price 1*s.* 8*d.*, post free), where full instructions are given for making a Standard frame hive. But, in any case, it is *inside* (not outside) measurements which are important. Outside measurements vary according to the style of hive adopted, the only "Standard" dimensions being those of the movable frames, in which the combs are built. If you propose making hives for your own use, a pattern hive, bought from a reliable maker, would not cost much, and the outlay would be a good investment as a means of preventing the spoiling of good wood and losing of much labour. Above all, don't attempt to make the frames; these can be bought at a little over a penny each, far better than you could make them. 2. *Grimshaw's Apifuge* is considered by many bee-keepers to ensure immunity from bee-stings.

EDWIN GRIFFIN.—*Feeding with Dry Sugar in Winter.*—We do not think you need fear any "after-consequences" from making the hive referred to for "own use." The fact of its having had a silver medal awarded it confers no exclusive rights as to its manufacture. The driven bees will not be very "likely to take dry sugar in a winter dummy" at this season. Far better to give them a four or six-pound cake of soft candy, if they are so short of food as stated, and another cake in early spring if the first one has been consumed.

C. N. P.—*Lantern Slides for Lectures.*—The set of slides belonging to the British Bee-keepers' Association may be hired on application to the Secretary, Mr. J. Huckle, Kings Langley, Herts.

ERRATUM.—Our correspondent, Mr. J. Mastin (1604, p. 429), requests us to say it was 15 cwt. of honey, *not* 15*l.* worth his bees collected this this year, as stated.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

THE *BRITISH BEE JOURNAL* AND EUCALYPTUS HONEY.

It will be remembered that some few weeks ago the subject of eucalyptus honey was rather prominently referred to in our pages in consequence of exception being taken to a few words written in reply to the query of a correspondent regarding the quality of Colonial honey. The matter, *pro* and *con.*, is, we think, fairly and fully set forth in our leader in *B.J.* for September 21st, to which any one sufficiently interested may refer, or, indeed, to the subsequent correspondence on pp. 394 and 406 of our issues for October 5th and 12th respectively. We return to the subject here in order to make an especial reference to one of our Australian correspondents, whose letters are printed in the two last-named issues of the *B.J.*, not because of anything appearing therein requiring special dealing with, but in consequence of the subsequent action of the writer, who, to give him the publicity he seems to love, we may say is Mr. John Smith, Montrose Park Apiary, Brisbane, Queensland.

Now, Mr. Smith has a habit of speaking his mind in a way sometimes more forcible than is quite polite. A sample of this may be seen in the "dressing down" he gives our British Custom House officials in one of the letters referred to, wherein he says, on page 394 :—

"I should like to know if these almighty Jacks-in-office have a right to act in this high-handed fashion, and have I no redress? I am a law-abiding citizen, and I want fair play and no favour.

"I should like to know the head boss at the Customs, that I might write him on the subject. I presume that these petty officials want to show their power, and as I am fourteen thousand miles away, they think they can act like tyrants, as despotically as they choose with perfect impunity; but the Press has stirred such-like up many a time, and this is why I write to you on the subject."

But our Australian friend is something else besides being forcible, he is astute—*very*—for we observe that in each and every one of his communications to the press—ourselves included—he very carefully, and rather cleverly, manages to introduce a glowing free advertisement in favour of the wonderful eucalyptus honey produced at the Montrose Park Apiary. No matter how vigorously Mr. Smith is lashing about right and left, he never omits the "*main point.*"

The greater number of his notes on bees and honey in this country are, however, apparently addressed to the *Leeds Mercury*, and a correspondent has lately favoured us with a cutting from that paper, which we need but to reprint in order to verify our assertion that not only is he an expert at getting a "free advertisement," but that so soon as he is outside the wholesome restraint which a full knowledge of the subject imposes—to wit, the columns of the *British Bee Journal*—he is neither just nor accurate. In the *Leeds Mercury* of October 23rd he says :—

"In the *British Bee Journal* of June 1st a question is asked 'if colonial honey is in all ways as good as British honey?' The editors reply, 'We do no injustice to our colonies by saying No to this query. Good colonial honey there is, no doubt, but much of it is so rank and strong in flavour as to be wholly unfit for table use. This is especially the case in some parts of Australia and New Zealand, where the ti-tree and the various eucalyptus or gum-trees grow so abundantly as to quite spoil the flavour of the better-class honeys collected in such districts.' What do you think of this, emanating from such a source? I should imagine the editors have been sampling some of that stuff I wrote you about as being shipped from here to London, and I told you it would very likely give Australian honey a bad name; but I had no idea the editors of the *British Bee Journal* would be so wonderfully deceived with such stuff, and know so little of the qualifica-

tions of the gum-trees as to assert that the various eucalyptus-trees spoil the flavour of the honey. Of course, that is all nonsense, because, on the contrary, we assert, and those who have tasted our honey will bear out our statement, that not only does the eucalyptus give a nice, agreeable, distinctive flavour to the honey, but it goes far beyond that by endowing it with those well-known medical virtues that place pure eucalyptus honey first amongst the honeys of the world, not only as an article of every-day food, but as a powerful medical agent. The editors of the *British Bee Journal* have done the Australian colonies a very great injury by circulating such an extraordinary and totally incorrect statement."

The editors of this *Journal* here reiterate what was said in the foot-note to Mr. Smith's letter, on p. 406, viz., that "we have nothing to qualify or withdraw from what has appeared in these pages with regard to eucalyptus honey." Moreover, we have since that time submitted the sample of first-class Australian eucalyptus honey left with us by the Vice-President of the Hunter River Bee-keepers' Association, Australia, to some of the best honey judges in this country, besides dozens of experienced bee-keepers, and they, one and all, concur in our view, that, however valuable it may be from a medicinal point, eucalyptus honey will never have the smallest chance of acceptance in this country as a table honey for general use. Having said this much, let us hasten to once more assert our conviction that the very best method of dealing with eucalyptus honey on the British market is to "push it" as a honey possessing medicinal properties sufficiently valuable in themselves to command a fairly good sale. It is far from our desire or purpose to advocate the interests of British honey producers to the exclusion of those of our own flesh and blood who happen to be located at the Antipodes, but we should be wilfully misleading our Colonial friends by withholding the expression of our convictions regarding their produce.

As has been said, we now return to the subject mainly for the purpose of dealing with the unfair methods adopted by a particular individual, who, after having had full opportunity given him for expressing his views in our pages regarding ourselves, carries the controversy into other channels where we cannot follow him. Any supposed injustice done to our colonies by what has appeared in this *Journal* was met on our part by the prompt insertion of the letter (1588, p. 406) giving the Australian view of the question from Mr. Smith's own standpoint (free advertisement and all!). But this does not content that gentleman, nor does he scruple to take advantage of the greater publicity afforded him in the newspaper press to reiterate, in an aggravated form, charges against the editors of the *Bee Journal* for which there is no foundation whatever. Any reference, therefore, to the personal aspect of the question, now made for the first time, he has himself to thank for.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"QUOD PETIS HIC EST."

[1649.] *Carrying Bees on Bicycles.*—What is the best description of package for carrying loose bees on a bicycle? is a question asked by a correspondent in your issue of the 2nd inst. (1616). Now, I am a bicyclist, and do a good many long journeys on my pneumatic steed, oftentimes having to carry ten or a dozen pounds of bees as many miles as pounds of same. To carry these in, say, five or six boxes is about as impossible a feat as riding a tight-rope with the same machine. You may pack one box on the handle-bar in front and two on your back, but that's about the utmost one can do with any degree of comfort, and very little of the latter commodity in the transaction.

Until quite lately I have often had to make two or three journeys to the same place for the purpose of bringing the bees home; this condition of things is happily of the past. Now I can with comfort carry the contents of seven or eight hives in separate lots at one journey. I don't want particularly to take the honour of being the one to invent the description of package which will give such good results as above, but will say that the idea was kindly given me by Mr. Simpkins, of Solihull, who, I believe, received it from Mr. Summerskill, of Hockley Heath. I didn't exactly "catch on" to the contrivance when told of it by Mr. Simpkins, but he very kindly sent me a sample package, from the designs of which I made

several more, and found them answer first-rate, and until better packages are invented I shall, to transport loose bees on a bicycle, always use them.

Now for the description: first get a square piece of perforated zinc 6×6 in.; it is best to have this with holes $\frac{5}{32}$ in. diameter. Next obtain a piece of galvanised or tinned wire about 8 gauge and form this into a circle 5½ in. in diameter. Now solder this on to the zinc so that its outer edges reach within ¼ in. of each of the four sides of the zinc square. The wire is simply a support to the zinc to keep it flat. Now make a stout canvas bag 28 in. in circumference and 17 in. deep, but don't make a bottom to it, but in place of the bottom securely sew the square piece of perforated zinc, fix a piece of tape, 18 in. long, by the middle to just within 2 in. of the top of the bag for the purpose of tying the mouth of it up, and there you are with a canvas bag having a perforated zinc bottom.

Now, you want to transport six lots of bees and for conveyance of same and self you have a bicycle; but, I forgot—you must first provide yourself with six bags and must also get the bees into the bags. Well, having driven the bees and got them clustered in the skeps, you take a wet zinc pail and just throw the bees into it and then empty them from pail into the bags and tie up with the tape. Caution: don't make the pail too wet or a lot of bees will stick to it.

You have now got six nice little bags of bees. I don't want to rewrite this letter. I have forgotten one thing, and that is, to fix a piece of string or wire from one edge of the zinc to the other to form a handle. Now, just hang these bags, zinc upwards, on to the handle-bar of bicycle, or around your neck, or anywhere where they are out of the way of your legs or vision. They weigh next to nothing, and can be packed anywhere on the machine. I believe it wouldn't, with a little contrivance, be impossible to carry a dozen such packages on a bicycle and its rider. Of course it doesn't look "fetching" for a youngster (I'm past that) to come across a posse of lady acquaintances when smothered up in canvas bags of bees, but that doesn't matter much, as it's usually dark when such operations are conducted.

"QUOT HOMINES, TOT SENTENTIÆ."

Experts and Lecturers.—I rather appreciate, Messrs. Editors, your foot-note to No. 1629 in issue of 16th inst. Lecturers ought, to all intents and purposes, to be considered teachers, and although I, speaking as a lecturer of a good many years' experience, know full well that such things as "slips of the tongue" do occur, yet any one well up in lecturing, and thus having a feeling of thorough confidence when addressing an audience, be it either large or small, hears the lecturer (himself) as well as the audience does, and if a *lapsus linguæ* does occur, he, hearing the same and having a perfect knowledge of the subject treated upon, at once makes a correction of the slip. If a lecturer is thoroughly conversant with his subject, he may make a *lapsus linguæ*, but if he does he at once recognises it and corrects it in parenthesis. But how it is possible to call the glaring errors mentioned in "Bee's" and "Subscriber's" letters "slips of the tongue" I don't know; rather should they be called egregious blunders caused by a want of knowledge.

Is it not possible for secretaries of Associations, where they have the spending of public moneys (County Council grants), to employ lecturers who have passed an examination in lecturing, instead of those who—although they may, according to their own ideas, be thoroughly conversant with the subject, and may be so practically—cannot or do not care to undergo the upper examination as first-class experts? Any one who is unable, through a want of knowledge of the subject, or through absence of education, to obtain a first-class certificate, cannot by any possible means be expected to properly address an audience composed, as it always is, of members of both the educated and uneducated classes. A lecturer must be very guarded in his language that he may be understood by the uneducated by avoiding as much as possible technicalities, and also that he may not give offence to the ears of his educated listeners by a misplacement of the A's and An's, or a conglomeration of the A's and H's, &c. &c.

I must champion the B. B. K. A. in their endeavours—I may say successful endeavours—to provide County Associations with men who are both practical bee-keepers and passable lecturers. A man may be a most practical and successful bee-keeper, yet he may by nature be so formed as to be unable lucidly to impart to others his ideas or knowledge. Every one is aware that men exist whose knowledge upon certain subjects is undoubted, yet they are of little use to the world, as they cannot, either in writing or speaking, impart their great knowledge to others. Other men cannot express their ideas *viva voce*, yet can do so in a most efficient manner by their writings, and others *vice versâ*

The B. B. K. A. have for some years endeavoured to sift these different descriptions of individuals, and very rightly arranged them in three classes, first, second, and third, that Committees of Associations may take their choice according to their respective wants.

That the strictures passed by "Bee" and "Subscriber" are merited in some cases, I have no doubt. Indeed, I have a vivid remembrance of attending a lecture a short time ago upon apiculture, the lecture being one of a course held under the auspices of a County Council. The lecturer (an uncertificated one) used the terms *pupa* and *larva* indiscriminately, no matter whether as singular, plural, or adjectively, and also called the stigmata "*stig*-mer-ter," and used the term "petorl" for petal. As these words were used over and over again with others equally as incorrect, one could not consider them as "slips of the tongue." This

has not only been observed by myself, but by others; for instance, while visiting a poultry show this week, a gentlemen of some influence in the county where these lectures were held asked me the question, "Why is it that such inferior lecturers on bee-keeping are sent out by the County Council?" I simply answered, "I don't know." What else could I say?

The fault lies with the Committees and Hon. Secretaries of Associations in not appointing lecturers who are both known and qualified. I have not the least doubt but what there are plenty of non-practical men who could by reading up obtain sufficient superficial knowledge to pass muster as apicultural lecturers. I am cognisant of one myself who knows practically as much about bee-keeping as a "donkey does about arrowroot." Here steps in the B. B. K. A. who, by examining their lecturers practically, upset the arrangements of any would-be non-practical lecturer by giving him a hive or two of bees to manipulate. What theoretical apicultural aspirant would face this ordeal *minus* veil and gloves? He would get in a perfect "muss" and get "plucked."

I remember, some years ago, a lot of correspondence ("writ sarkastic") appearing in the pages of this *Journal* as to a word (quincunx) used in the examination of first-class experts being unnecessary and absurd. Why so? If a man is unfortunately so ignorant of the Latin numerals as not to at once "tumble" to the meaning of it, he is scarcely a fit person to address an educated audience. Yet this want of knowledge does not lessen his capabilities as a practical bee-keeper an iota—in point of fact, I consider the examiners ought to be instructed by the B. B. K. A. to examine aspirants for first-class certificates a deal more thoroughly upon educational matters than they do. After a man has passed his third and second-class examination, the examiners know he is a practical bee-keeper. Then comes the first-class examination to test and give precedence to those whose qualifications render them eligible and fit persons to give a sound lecture and explanations to any description of audience.—W. B. Webster.

NOTES BY THE WAY.

[1650.] The weather during November has been true to its tradition; it was yclept the *Winnat* or wind month by the ancients, and as the wind roared through the trees on Saturday, the 18th inst., making playthings of chimney-stacks, outhouses, &c., unroofing houses, barns, and buildings, I thought anxiously of the bee-hives, but was glad to find next morning that all was well, but have no doubt that some fared worse in places where they happened to be exposed to the full fury of the wind.

In answer to "A Yorkshire Bee-keeper" (1624, p. 451), I follow a similar course to what he does himself with my home apiary, *i.e.*, sweeping the snow away in front when it is practicable, and sowing ashes or coal-dust on the snow. This hastens the thawing of the snow, and the ground is soon cleared. I always sweep the roofs of hives as soon as a thaw sets in, but not before. At my out-apiary, rather over two miles from home, the bees and hives are left to take their chance, and there is no appreciable detriment to the stocks. In fact, the colonies at my out-apiary are generally stronger on an average than those at home which come in for a greater share of attention.

W. B. C. ends, as originally designed, have no side distance-keeping projections—why, I have never been able to understand. Our worthy Editors contend that in properly made hives the top bars measure off the distance for bee-space between the hive sides and the ends of frames; but it seems to me that the hives must be correctly made to accomplish the object in view, whereas a distance-keeping frame in itself does not require such a correctly designed hive. In fact, a great number of home-made hives are not correct enough to space the frames correctly, and the consequence is that the combs are not movable; one side will be rendered fast by honey-comb, and the other end by propolis. The newly fledged tyro in manipulation will probably have enough of movable-comb hives, and return to the pattern his grandfather used; and his neighbour over the fence will be heartily glad of his return to the old-style hive as he remembers how the chickens, the pigs, the ducks, and the neighbours got stung when Mr. —— opened up his new hive to show the beauty spots on his newly introduced foreign queen, a mishap which would not have happened if the frames had been provided with self-spacing projections. I consider, in the interests of a growing industry, that bee-furniture should be made as useful as possible. I comment on the W. B. C. solely in the interest of others, as I use myself only Abbott's wide-shouldered frames in the brood nest, and it is my working with these self-spacing, easily adjustable frames, that prompts me to advise the addition of a side-distance spur to the W. B. C. ends.

I am surprised to see Mr. Simmins' caution against advance in the matter of wider combs for the extracting supers, and equally surprised to read in his *Modern Bee-farm* his remarks anent the super-clearer. Whatever they may have been fifteen years ago, I know by practical experience that they are perfection now, or very near it, and a great aid to the practical bee-keeper as a time-saving, therefore a money-earning, appliance.

The matter of Standard frames has cropped up again, and some would advocate a deeper frame of some 16×10 inches. This size gave good results years back, and the "standard" has given equally good results in the intervening years, and with an elastic hive, such as the Combination, the extension of the brood nest may be easily increased to the number of twelve or fourteen standard frames when extra prolific queens head the colony; but where an apiary is run on commercial lines—*i.e.*, on the most profitable system—the object of the apiarist is

to have the colony just up to the boiling-over point when the first honey-flow commences, and then work his apiary according to his district. When a few years' close study of the economic conditions are noted down, the practical man will soon discover that his success will not entirely depend on enormous colonies of bees (except at the right period, when there is bee-work to be done). Large colonies produce largely, and large colonies *also consume* largely. Now, while I am saying a word on the size of a brood nest, allow me to refer to what Mr. Heddon says in *Gleanings* in reply to a bee-keeper who asks if he is ready to endorse what he said in reference to shallow frames (four inches) in 1889. Mr. Heddon replied that he is as much in favour of shallow frames after extended trial as he was when he wrote in 1889. He adds, "My experience and observation warrant a positive belief something akin to absolute knowledge that extremely shallow combs are not excelled by any other for safely wintering the bees. We are all aware of the fact that shallow frames are more easily handled, and better adapted to the storage of surplus honey, less liable to brace and burr combs, and, I believe, better adapted to early and extensive brood-rearing." This is the opinion of a master in the craft after years of practical experience. Now, between these two—the deep and the shallow—comes the golden mean, *i.e.*, the British Standard, which has filled the bill, and is likely to do so until our friends with the deep-frame hives proves that the output of honey is greater from the colonies on the deep frames than from colonies in the Standard.

More light is sadly needed by even some of our educated public men. Here in West Berks, we have had a Government commissioner, investigating the condition of the agricultural district, stating in a Blue Book that the honey-bee deteriorates the quality of the hay by extracting the honey from the flowers; this erroneous idea still lives, notwithstanding the repeated assertions of scientists that so soon as the insect has visited a flower, and fertilisation has taken place, the flower ceases to put forth nectar, but produces seed, thus increasing the feeding quality of the plant, whereas, if the flower is not visited by the insect, it continues to put forth nectar, and thus drain the plant of the concentrated juices, which the very act of fertilisation conserves in the seed-forming ovaries of the plant.

Nothing is said of the benefit the busy bee is to the agriculturist, and what would happen were it not for insect fertilisation of his plants, which fertilising act is largely due to *Apis mellifica*. Take clover for instance: ten heads of white clover, unprotected, produced ten times as much seed as ten heads under gauze. Another instance: twenty heads, covered, produced *one poor seed*, while twenty heads, uncovered, produced 2290 seeds. Now for a fact in red clover: 100 heads, covered, gave nothing; 100 heads, open, gave 2720 seeds. — W. WOODLEY, *World's End, Beedon, Newbury.*

MORE "MIXED."

"A rose by any other name
Would smell as sweet."
SHAKESPEARE.

[1651.] It was with feelings not unmixed with pleasure that I perused the further letter (1639, p. 468) from your correspondent "Honesty." But why does he deliberately go out of his way to misconstrue one's desire to locate the spot where "light" was wanted in order to account for his short "take" and my modest attempt to indicate the probable cause? One would have thought that the fact of my bracketing together his former letter (1602, p. 428) and that of "Phil Jones" on same page should have yielded a ray of light where wanted to a man so eminently gifted as "Honesty." No doubt our friend's bees "worked as hard as those of his neighbours, and were as strong," but they were working for the wrong end, and there is very little doubt that "Honesty's" bees had the same complaint as those of "Phil Jones," viz., an abnormally strong brood nest, but with very opposite results, brought about, in my opinion, simply by different treatment early in the year. Nearly all authorities agree as to the advantages of spring and autumn feeding, and I most emphatically deny that there is any "dodgery or trickery" whatever in it. I also, in all sincerity, tell "Honesty" that the sooner he brings his perspicacity to bear upon this fact the sooner will he find that the "future," so far as his "takes" of honey are concerned, will be very different to the past.

That he may not fail in grasping my full meaning, I quote a few passages from one of the most reliable works on bee-keeping, which he may take even from *me* as good and sound advice. "It is sometimes thought superfluous to feed bees when they have sufficient stores within the hive, and some will tell us that nature prompts them to use the honey as they need it. This is true, and under such circumstances their development is sufficiently rapid for their own *preservation*, and they may be able to lay up for themselves a sufficient store for their own use; *but the object of the bee-keeper is to ensure beyond this a large surplus*, which he may appropriate to himself. To secure this he must *stimulate to activity early in the season*, and the cost of the food employed at this time will be repaid by greatly increasing the honey harvest."

"*A little gentle feeding will keep a colony prosperous*, in default of which it might be thrown back in its development *in a few days* more than it could regain in *as many weeks*, because, when a colony rapidly rearing brood finds that honey is scarce both within and without, the queen stops laying and the bees destroy the larvæ and eggs." (The italics are mine.)

I would also add that a hive, full of very young bees, with large masses of brood at the commencement of the honey-flow, is, so far as "large takes" are concerned, worse than useless.

I must admit that on reading "Honesty's"

first letter I was mistaken in judging him to be a struggling bee-keeper like myself, who would have been only too glad of a little guidance on bee-matters. A perusal of his second letter, however, causes me to lift my hat and regard him as the very embodiment of enlightenment; in fact, so full is it of fascinating matter that I have almost learned it by rote. "Honesty" is anxious as to my age; he is kind, and I thank him for his interest in me. No, I don't even *feel* old, though my bantlings may in secret conclave irreverently refer to me as their "old dad." I say they may do this, but any way, I am in that happy transitory state when it is generally deemed wisest not to press such inquiries too far, because the answer may be "young" (not too young, you know) or it may be old, and so far as *personalities* are concerned, old enough to know better than indulge in them. Referring to my *nom de plume* and your correspondent's nervous anxiety that I should "get another name," I think he should be the last to complain, seeing that in this matter he has such a decided "pull" over my unenlightened self. But as this is not the first time I have been brought to book on this point I may refer him to page 57 of *B. J.* for February 9th last, so that he may fully appreciate his own wisdom. In the last par. of "Honesty's" letter I take it he is trying to pay me a compliment, as he cannot accuse me of sharing in "the too general silence of bee-keepers," but I would ask, is it fair for him to assert that silence implies "guilt or ignorance?" It is practically assuming every one to be rogues until they prove themselves honest. It may be interesting, however, to "Honesty" to know that I have never sold a pound, or even an ounce, of honey to the outside public in any shape or form in my life.

I was very glad to see your leader last week on Standard frames and the proposed revival of the larger old-fashioned frames, and much admire the masterly manner in which you have dealt therewith. If utter confusion is to be avoided in our apiaries and bees on frames to continue saleable articles, then I say, "Stick to that which has been proved to be for most purposes by far the best and is now in universal use and relegate the remainder to limbo!"—THE HEATHEN.

FAILURES WITH THE "WELLS" DUMMY.

[1652.] Your correspondent, "The Heathen" (1609, p. 436), states that I made "a very one-sided statement *re* the 'Wells' dummy." I fail, however to see that such is the case. When making my report, I simply drew attention to the fact of so many failures with it, which appear weekly in the *B. B. J.*, also the monthly *Record*. And, although the Editors kindly drew my attention to two cases of success—and one of them had not appeard in print at the time of my writing—I also note your correspondent's success. I simply wished to record my own success with a perforated zinc dummy, and I think you must agree that it has answered its purpose well.

Neither do I expect Mr. Wells to guarantee success to all who try his method; but surely your correspondent does not wish to draw a hard and fast line, which no one shall go beyond, with respect to the kind of dummy that shall be used in a "Wells" hive, which mine certainly is, as laid down from time to time in the *B.B.J.*? It simply differs in the dummy, and this "The Heathen" very strongly objects to. Your correspondent also, while carefully pointing out his own success, does not consider it necessary to allude to the failures; perhaps he considers the *B.B.J.* is doing that sufficiently well, seeing that, roughly speaking, the failures are about three to one success. Surely, also, he does not call his own case a success?—for, according to his own statements, he has worked only nuclei, and no stocks can be called a success unless they have been working in surplus chambers, which is the real test. Now, sirs, comparing your correspondent's success—such as it is—and the few others recorded against the large percentage of failures already reported, it does not at present say much for the wooden dummy, and until better reports come forward, I must still adhere to the zinc dummy, which I know will answer.

"The Heathen" also wonders "how I account for my stocks being broodless on October 7th?" In that there is no mystery to me. I am told that bees stop breeding earlier when the hives are full of honey, which was the case this season. If I had been feeding nuclei, as your correspondent has, I should certainly have been disappointed at not finding brood, seeing that he only stopped feeding on October 1st. Bee-keepers tell me that eight out of every ten stocks in this district were broodless on or before October 7th, thus proving it is no fault of the zinc dummy. Friend "Heathen" also says: "Had '1573' adopted a properly made dummy, his bees would not have been broodless." This shot fails of its mark, because the zinc dummy was only used in one of my hives, and it certainly could not affect the whole of the others, which were alike broodless.

As to my queens being worth the keeping, my take of honey (118 pounds per hive average) answers that question, and my bees have not been fed since March last.

I can recommend the system I have adopted to any one who wants bees to pay, for I have safely increased my stocks by three, and sold 8*l.* worth of honey; so that, after buying an extractor, new frames, foundation, &c., at a cost of 4*l.* 3*s.*, I have a profit of 3*l.* 17*s.*, and plenty of honey left for our own consumption.—WM. TUSTAIN, *Northants, November 22nd*, 1893.

WIDTH OF SHALLOW FRAMES.

[1653.] In my communication on shallow frames (1625, p. 451), I am, by an error, made to describe the top bar as "about five-eighths inch thick" after having tacked on three-eighths

inch slips of wood on each side the top bar. It should, of course, read *about one and five-eighths inches*, except at the extreme ends of the top bar, which remains at its original width of seven-eighths inch.—JOHN WALTON, *Honey Cott, Weston, November 24th.*

THICK OR THIN COMBS FOR EXTRACTING.

A CORRECTION.

[1654.] Through a printer's error my letter in last issue (No. 1643) does not exactly express my anticipations of the change in our methods of extracting which is likely to occur shortly. My contention will be for "an extracting frame spaced slightly closer than the *brood* gauge," not "*broad* gauge," as your printer has it.

No one can find fault with your own objections as expressed in the foot-note in so far as they refer to present modes of extracting.—SAMUEL SIMMINS.

A HORNETS' NEST.

[1655.] As a result of the past delightful season, many insects which were getting scarce have become abundant again, so that our banks and hedgerows, our fields and copses, have been enlivened by the hum of myriad wings; and even here, close to the busy town—I beg its pardon: I meant city—butterflies of strange delight, small coppers and heaths, jagged-winged commas, peacocks, and resplendant admirals have graced our garden flowers.

In outlying districts there are men who can show more than fifty notches cut in their sticks, each notch representing a wasps' nest destroyed. We must kill something, and why not the poor wasps?

One youth tells me that he is the proud robber of nine hornets' nests, and is thirsting to rob more. I am willing to get one specimen nest to add to my collection, so, good reader, if you will follow me in imagination, I will take you into hornet-land.

It is the first week in October, and another lovely day. I take train to Redditch—the land of needles—and walk over the fields to Web Heath, our meeting-place being the inn there. It lies high, and I have heard that the Sugar-loaf Mountain, at Abergavenny, has been seen on a very clear day. To one immured in a dingy office, in a smoky town, close to the roar of huge machinery, the scene is full of delight and peace. The hedgerows are full of exquisite colour, and if there are few flowers, the dead stalks of willow-herb and that fine plant, foxglove, umbelliferous plants and teazle show the wealth of blossom there has been.

The brave youth does not turn up, so my friend, Mr. Hiam, and myself proceed to trail hornets. We went along lanes with high banks, draped with briar and bramble, and bryony, with bunches of red berries, looking like a giant dodder climbing to the top of the hawthorn hedges. Pollard willows were plentiful, and in the matted heads grew many plants: woody nightshade, with pretty berries, honeysuckle, and bramble commonly. In one, a young oak; in another, the gooseberry. It is in these willows, chiefly, that the hornets make their nests. We enter Fox-lydiate wood, and here is the first hornets' nest. A stately ash has been riven, years ago, by the lightning, and, in consequence, the inner wood is all decayed; the outer bark—the crust, as it were—only alive. The female hornet—queen of British insects—commenced the nest in the "touch-wood," and so they have enlarged it, till there may be five rounds of comb filled with uncanny brood. We next cross a couple of fields to see a pollard oak where Mr. Hiam cut out a nest last week, and where one hornet sat down on his nose! Then we pass a cottage, with a nest in the thatched roof; then find another nest in a pollard willow, and so on to the one we are to take, because it is a very strong one.

We call at the inn here, and drink lemonade—being teetotalers—to steady our nerves. The tree is hard by, and so, our nerves being steadied, we repair thither. It is a gigantic oak—a remnant of the Feckenham forest. Once, when knights passed here in falconry days, a little sprouting acorn. Before we reach it, an occasional hornet may be seen sweeping up the brook-side, going homeward. A flock of geese are picking up the acorns, and here, under a chestnut-tree, lie hundreds of "nobbly conkers," the outer prickly shell broken, revealing the rich brown nut within. We come to the tree, and, standing at a respectful distance, watch these noble insects fly in and out. They enter where the trunk divides, for it has gone rotten there, and evidently the tree is hollow. If you have not watched a hornets' nest—the splendid creatures going straight as a line into the ether, others coming home with a swing and a hum that there is nothing else like—you are yet short of one of the pleasures of country life. There is a tone about the humming wing different entirely to that of the humble-bee or flying beetle. It makes the nerves unsteady, the hand tremble; fear comes to the heart, for it beats more quickly. Workers laden pass quickly in and out, and an occasional drone, but the much heavier queens fly but seldom. Perhaps they fear the butcher-bird, who would kill, and leave them pierced upon a thorn. From a bottle we pour in the deadly fluid; the fumes arise, and the hornets enter never to go out any more. A few manage to wander out, but being stupefied, I easily box them off the bark. Others manage to fly, but we knock them down in the grass and kill them. A youth, whom we have hired to use the axe, deftly picks them up, extracts their stings, and puts them in his trousers pocket!

Few now coming home, he seizes the axe and buries it into the heart of the oak. After

an hour's work, with frequent interruptions owing to hornets returning from the fields, the axe goes through, and the nest can be seen a foot above. The gap is enlarged, and, by reaching up to the elbow, the nest can be felt. The first comb is brought down, with insects all alive, but drowsy. There are queens, males, workers, and undeveloped brood. Then the next, and soon five combs and the outer covering of "paper" lie on the greensward outside. The work is done, the hole mudded over, to make believe it is an old fissure, and we return to the inn unstung. My boxes are full of specimens, in my handkerchief a broken nest.

Towards Astwood Bank we now direct our steps. The autumn day is drawing to a close, but it is light enough to see the rooks and wild pigeons, and, by a farm at Elcock's brook, ducks and pigs eagerly devouring the acorns. I never saw them so plentiful before. Many species of birds are seen, and along the high banks scores of glow-worms, like bits of electric light. Mr. Hiam is an enthusiastic observer, and has much interesting knowledge of the lesser British birds, and the time passes pleasantly.

Next day we took an unbroken nest out of a thatch, and went a grand ramble through Norgrove and Bentley Manor, Sambourne, Hunt End, and a lot of other places. We found many more nests, and Mr. Hiam pointed out the young ash saplings stripped of their bark by hornets. They seemed very quiet insects, for we stood close to their nests many times, and not one molested us. It was a beautiful sight to see the heaps of apples in the orchards, Blenheims, Ribston pippins, and the like. Many of these will be ground into cider, for fruit is so abundant it scarcely pays the carriage to send it to town. One old farmer—ruddy as his apples—showed us two great walnut-trees that he had planted. Mushrooms were plentiful, and often coveys of partridges went whirring away as we crossed over fields. Women and children were picking up acorns. They make as much as 3*s*. 6*d*. per day by selling them. I spent a most pleasant day again, and returned home much wiser with regard to hornets than I had been before.

The nest was kept in a warm room, and, wishing to make some observations, I fed the larvæ every day with honey and shreds of beef, which they eat greedily. Like wasp larvæ, each one faces towards the centre of the comb —for what reason I cannot say; nothing more, perhaps, than that perfect order which exists in all nature—and, as though by some preconcerted signal, each one rasps sharply the side of its cell with its mandibles, producing a very curious sound. This is done, no doubt, to attract the attention of the nurse hornets, but how they contrive to strike at exactly the same moment as each other, not one being able to see its neighbour, I cannot conceive. When a mother bird steps upon the mossy side of her nest, what an array of open mouths! But when the nurse hornet creeps in upon the comb, what a rasping of little jaws against the walls of their cells! The cells are large and hang down, so that we wonder the young larvæ do not fall out. They are fastened, however, so firmly to the cells that it is difficult to pull them out. The pupæ, or nymphs, which are undergoing that wondrous transformation—the fat grub changing into the winged and golden fly—are covered with a tough web, whether made by themselves or their nurses I wished to find out. Many queens and the males, with long antennæ, hatched out in my presence. They looked very comical, sawing themselves out into the world. As we watched, we ceased to wonder at the barked ash saplings and the holes bored into solid wood. I kept them alive a fortnight, but not one even commenced to build the dome to its cell. Perhaps the workers do it for them, like the honey-bee.

The hornet being so much larger than a wasp, the beautiful folding arrangement and minute hooks of the wing, the divided thorax, sting, and tongue are much more plainly visible. I hope to get some of these queens through the winter, to start a "hornetry" in the spring. If only one would take to an observatory hive, what discoveries we should make!

From an examination of the combs, the queen evidently builds nothing but worker cells at the beginning, but, as the workers hatch and help, drone or male comb is interposed amongst it; then, later, drone comb is in the centre and queen comb round the sides. The whole, built of a fibrous paste, is about as fragile as the nest of its cousin, the fair wasp. It seems a wonder that, when full of heavy brood, it does not collapse. Stout pillars of "paper," however, support each comb in the centre, and the edges of each comb are joined to the outer envelope—a beautiful structure—and, maybe, to the wood of the tree.

The "worker" is a lithe and graceful insect, well known to one little boy, who said, tearfully, "I didn't—mind, as—long as it—kept scrawlin'—about, but when—it sot down—it 'urt orful!"

The male is beautifully proportioned, the antennæ much longer than either the queen or worker. He cannot sting, yet take hold of him and you will probably drop him quickly, because of his frantic efforts to do so. The queen is much larger than her brother or sister. Unlike the queen of *Apis mellifica*, her sting is straight, but I can trace no barbs. The queen of the hive-bee may be held between the lips, but venture not to do this with the handsome queen of the hornets. I have one here now on the cloth, running about, and if you do but approach her majesty with a finger, she at once curls round her body in a menacing attitude.

Happy are the hornets, swinging in and out of their home, the ancient oak; leave them undisturbed, and they will do you little harm. But the fiat has gone forth, as it has against wasp, hawk, and blue-winged jay, "Destroy them." So that the good they would, perchance, do is left undone, and for the destroying there is, as reward, a goodly jug of beer, or, mayhap, cider, and an admiring crowd!—LORDSWOOD.

Queries and Replies.

[918.] *Information wanted about Carniolan Bees.*—I should be much obliged if you, or any of your readers, could give me some information regarding Carniolan bees. 1. Is it a fact that these bees are docile, not excitable, and easily manipulated, and do they compare favourably in this respect with Italians? 2. Are Carniolan hybrids vicious like the Italian hybrids? 3. I have read that Carniolans are a nuisance in the matter of swarming; when crossed with blacks, do they lose this tendency to excessive swarming? 4. I am told that Mr. Blow, Mr. John Walton, and other bee-masters use these bees very extensively—have they ever recorded their experience? I may mention that I work my hives almost exclusively for extracted honey, and would like to give up my English queens for a more gentle race, but do not wish to have to deal with much swarming.—JOHN S. FENTON, M.D., *Northants, November 25th.*

REPLY.—Since our correspondent invites readers to give their experience of Carniolan bees, we join in his request. For ourselves, we prefer the first cross between Carniolan and black bees, though we have occasionally found them uncertain in handling, some stocks retaining the quiet habits of the pure Carniolan, and others those of the true hybrid.

[919.] *Leaking Bottle Feeders.*—Can you give me any information as to the cause of the syrup running out of the hive entrance after the bees are fed, from the feed-hole in top? I am most particular in having the feeder set on straight, and use a properly made one bought from a dealer. I have lost two hives before, and cannot understand the reason. If you could tell me what to do, I should feel very grateful.—M. A. K. F., *Shere, nr. Guildford.*

REPLY.—What are known as "slow or regulating feeders" should not be left on hives at this season. So long as the bees are taking the food, it works all right, unless the feeder itself is badly made; but when the temperature becomes lower after a feeder is put on, the pressure of air—which prevents leakage—is reduced, and the liquid food drips slowly out. Soft candy is the proper food for bees at this time of the year.

[920.] *Feeding and Medicating Bees.*—Could you please tell me why some of my bees are in such a state of excitement? I fed them with candy, and I also put into each of the hives four halves of naphthaline last Monday—not that I have foul brood, but I used it as a preventive, thinking it would do no harm. In one hive that is not very strong the bees are quiet enough, but the other is all life at the entrance. On Tuesday morning I went to look at them, and, to my grief, I saw from 100 to 150 dead on the ground. To-night they are the same, running along the alighting-board and then falling to the ground to perish with the others. I did not like them all to die, so I shut them in tight, and shall release them in the morning, and, I think, remove the naphthaline. I should be very glad if you could advise me what would be best to do, as I am only a beginner.—F. W. MOREY, *Ventnor, November 24th.*

REPLY.—We have never had a similar experience reported as the above. If the naphthaline used was obtained from this office, and used as directed, there is no reason for supposing that *it* was the cause of the disturbance which ensued. No doubt feeding and medicating on the same day would be likely to cause some excitement among the bees, and it would have been wiser to insert the naphthaline later on if the mischief really took the form of causing the bees to quarrel among themselves, as seems likely from the description given. We shall be glad to know the result of your dangerous expedient of confining the excited bees within the hive.

Echoes from the Hives.

Honey Cott, Weston, near Leamington, November 24th.—Friday, the 17th, was very fine and mild in the morning, with a temperature nearly up to 50°, so that the bees had a good turn out, so that my wife remarked to me she "thought they were all going to swarm." Of course we expected it was a weather indicator, and didn't we have a blizzard the next day and night! On looking round the next morning, I found all the entrances to the hives snowed up, and the tomtits had been around trying to get at the bees; their feet-marks were plainly to be seen. So I set some traps, and caught three, and now the others are rather shy, and keep back, as they saw one in the trap. I have had a good look over my "plant" lately, scraping off propolis from the crates and separators, so that they may be ready when we want them another year, if all's well. By the way, I must tell friend Woodley I did not like to price my honey too low at the Dairy Show, as some of our friends might have said, "We could have got more for ours if Walton hadn't priced his so low."—JOHN WALTON.

LECTURE ON BEE-KEEPING.

Under the auspices of the Worcestershire County Council, and in connexion with the Worcestershire Bee-keepers' Association, the Rev. E. Davenport gave the first of two lectures in the schoolroom, Stoke Prior, on Tuesday evening, Nov. 21st, on "Bees and Bee-keeping," illustrated by a series of limelight views. The Rev. Charles Stockdale (vicar) presided, and there was a fair attendance of local bee-keepers

and other ladies and gentlemen. The Chairman introduced the lecturer in a few appropriate words, after which the Rev. E. Davenport explained that the Worcestershire County Council had voted a grant of money to the Worcestershire Bee-keepers' Association to enable it to send a lecturer round about the county to give lectures on bees, and so instruct the people in the very interesting and paying *petite culture*, viz., bee-keeping. He knew of no better purpose to which the County Council could vote money. What could be better than teaching the cottagers a pleasant pastime, and at the same time putting *l. s. d.* into their pockets? He was sometimes asked if he kept bees. He replied "Yes and no." The first year he had bees he kept them, but now he expected them to help to keep him. He would strongly advise intending bee-keepers to begin in a small way, and increase the number of stocks by degrees, for if they had the bee-fever very strongly, they might perhaps launch out too freely, and by encountering failure through inexperience throw up the craft in disgust.

The lecturer then expatiated to some length upon the wonderful structure of the bee, describing the duties of queen, drone, and working bee. Mr. Davenport compared the modern frame hive with the old straw skep, showing how the former was by far the better for ease in manipulations and the study of the working of the bees, and also in enlarging and contracting the size of the hive, although the latter possessed two very good features, viz., warmth and early swarming. The lecturer dealt with the two chief diseases affecting bees, and gave the best preventives and cures. The limelight views which illustrated all the principal points of the lecture was much admired. Mr. Harvey, Stoke Prior, manipulated the lantern. A very hearty vote of thanks was accorded Mr. Davenport for his interesting and instructive lecture, and also to the Rev. C. Stockdale for occupying the chair and granting the use of the room.—*Communicated.*

ROXBURGHSHIRE B.K. ASSOCIATION.

A Presentation.

On Friday evening, November 3rd, a meeting of the Roxburghshire Bee-keepers' Association was held in the Royal Hotel, Jedburgh, for the purpose of presenting the Secretary, Mr. Thomas Clark, teacher, Pleasants, with an illuminated address and a Wells beehive, and Mrs. Clark with a silver teapot. There was a good attendance of members. Mr. William Marr (Vice-President) occupied the chair. Dr. Fyfe (The Nest) made the presentation, and the Secretary replied in appropriate terms on behalf of himself and Mrs. Clark. A very enjoyable social evening was afterwards spent.—*Communicated.*

FARMERS AND BEE-KEEPING.

A favourite maxim of the thrifty, and one with which as youngsters we were all made familiar, was to "look after the pence, and the pounds would take care of themselves." To have regard for small things is to qualify for bigger. Now, bee-keeping is a small thing in its way, but Sir James Whitehead explained to the Lord Mayor at the Mansion House the other day, how profitable an undertaking bee-culture was, and how it might be made to add to the incomes of small farmers and cottagers. For years past the sons of the soil have been continually lectured for neglecting various simple means at their hand which, if properly used, might have helped them to face periods of depression with lighter hearts. Farmers may think they know their own business best, as they probably do, and may therefore be justified in scouting with scorn many of the suggestions offered by outsiders. But to take bee-keeping for instance—and this is one of the sources of income which they have admittedly neglected. Sir James Whitehead quoted a farmer at Farnham who had two hives. From one of them he obtained 142 pounds of honey, and from the other 64 pounds. The average of the two was 103 pounds, and at 9*d.* per pound that would give a profit of 7*l.* 14*s.* 6*d.* A multiplication of these figures readily shows what might be made out of apiculture. It is gratifying to find the farmers and cottagers are at last beginning to realise this, and great advances have been made during the last few years. Very little cost is involved in bee-keeping; the hives occupy very little room and do not require much care, while the bees have absolute freedom to gather honey wherever they list. Into the gardens of the high and low they may go with impunity, and no one can haul either them or their keepers up for trespass. In these days every little helps, and the British Bee-keepers' Association is doing a good work in trying to get small farmers and cottagers in rural districts to regard honey as a means of adding to their income. The import of foreign honey is yearly becoming larger, and there is not the least reason why our home production should not be considerably increased.—*Western Morning News.*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Thos. Hallewell (Mount Barker, Australia).—We have forwarded copy of *B.J.* as desired, enclosing copy of subscription form. If it should not reach you, please write again on post-card.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 598. Vol. XXI. N.S. 206.] DECEMBER 7, 1893. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—We have, so far, had no reports of mishaps to beehives during the storms of the 25th to 28th ult., and, so far as it goes, this may be taken as an assurance that bee-keepers nowadays are wise enough to take the necessary precautions against wreckage during November gales and, let us hope, the inroads of King Frost. The severity of the storms referred to may be judged by the following description of its effects in Scotland, taken from a London daily paper of the 4th inst.:—

"Some extraordinary figures showing the effects of the recent storm which raged in England and Scotland have been tabulated by the *Dundee Advertiser*. It appears that, in various districts of the northern country, woods and forests have been almost swept away. The aggregate number of trees blown down in Perthshire is 403,587, and in Forfarshire 1,044,757, giving a total over the two counties of 1,448,344. In Perthshire the damaged trees represent a value of 60,743*l.*, and in Forfarshire of 221,520*l.*—in all, 282,263*l.* Of course, in a great many cases no return as to numbers or value has been given, it being impossible to make an estimate, especially where the numbers were very large."

THE "W. B. C." METAL END.—We note that several references to the "W. B. C." end have been made of late in our correspondence columns by way of suggesting improvements or of pointing out supposed faults in that much-used little bee-appliance.

The sole defect complained of seems to be the want of a "spur" or projection of some kind which will regulate the distance between the side bars of the frame and the sides of the hive. Now, with all due deference to those who consider the lack of a "spur" a fault, we fail to see any more force in the arguments used in favour of this distancing spur than there is in the simple essential that beehives, to be properly workable, must be cut to accurate measurement. In fact, accuracy is just as necessary in forming the common rabbett in which the old-fashioned, short top bar works, or in the rebate on the underside of a broad-shouldered Abbott top bar, or in the width of the hive body in which the frame hangs. Surely, then, it is not necessary to make any special allowance for the carelessness of the hive-maker who cuts his top bars of various lengths instead of an exact seventeen inches, any more than for his cutting the side bars of different lengths? To our mind, a spur on the "W. B. C." end would be fatal to it, besides being of no use whatever, provided the same care is used which compels a certain width—neither more nor less—in the hive body.

It is, therefore, with no feeling of testiness that we refer to the question here, in order to say that if a spur is added to the metal end known as the "W. B. C." the writer would feel constrained to request that some other appellation be given to any such improvement (?) as would include a spur rather than the initials of *his* name. Our correspondent "H. C. J." (1608, p. 435), makes a couple of cuts in the end and turns down the piece in form of a "lip" which lies against the hive side, only, as we think, to cause trouble with propolisation. Another correspondent, "Lancashire Novice" (1630, p. 457), makes some suggestions which, after a little further experience, we think he would see faults in.

We also feel quite as strongly that the wider end, recommended for surplus chambers, should be made to fit the standard top bar, and that any other alteration will be a move in the wrong direction. If a

wide top bar is fancied, there will be no difficulty in making the end fit by having the wide bar "shouldered" back to the seven-eighth width.

What we earnestly deprecate is the introduction of any complication in these ends, and the strong point of the form we advocate is that, in case of need, the end made for wide combs in surplus chambers will answer for the narrow combs in brood chambers, so that the bee-keeper will be at no loss whichever form of end he happens to have by him.

PRESENTATION TO MR. JOHN HUCKLE.

The presentation of a testimonial to Mr. John Huckle, Secretary of the British Bee-keepers' Association, took place on Friday, November 24th, in the National Schoolroom at Kings Langley, the occasion being the annual dinner of the local Cricket Club, of which Mr. Huckle has been secretary for thirty years. Some sixty-five gentlemen sat down to dinner, and the room was tastefully decorated with bunting, plants, &c. The President of the Club, Colonel A. H. Longman, of Shendish, occupied the chair, the vice-chair being filled by the Chairman of the Committee, Dr. Fisher. After the usual loyal and patriotic toasts had been duly honoured, the Chairman proposed the toast of the evening, and in the course of his remarks referred to Mr. Huckle as follows:—

"You have in Kings Langley one who has for many years past worthily received your esteem. I have the honour and pleasure to bear testimony to the worth of Mr. John Huckle, who is a very old friend of mine, and I am proud to be your mouthpiece in conveying to him this testimonial to his services. Mr. Huckle, I have been requested by residents in Kings Langley and members of the British Bee-keepers' Association to ask your acceptance this evening of a slight recognition of the time and services you have given to the Club and the Association, and we hope you may long be spared to enjoy the gift. I ask you to accept this address, and a cheque for 150 guineas, and long may John Huckle be our secretary!"

The toast was most cordially received and honoured.

Mr. Huckle, in reply, said:—"Mr. Chairman and gentlemen—I find it difficult to express in suitable words my gratitude for the great honour you have done me to-night. There are times in the lives of most of us, I think, when we are quite unable to give expression to our inward thoughts and feelings, and such is my case at the present moment. I am pleased that I am able to be here to-night to express my thankfulness for this handsome gift. I owe to you, gentlemen, and many others resident in the county and in distant parts of England, a large debt of gratitude for this testimony of the sympathy you have shown to me during a long illness. I think nothing which this world gives affords so much strength and fortitude in times of sickness and difficulties, as to know that those whom we have worked for and serve sympathise and care for us, and I acknowledge, with much gratitude, the large amount of sympathy that you and others have shown towards me. I owe much to the skill and care of the vice-chairman, who has from time to time (if I may so speak) 'set up my wicket,' and enabled me to take a humble part in the work in which we, as cricketers, take so much interest. I have always been proud of the reputation which this village has enjoyed in the cricket world. I know something of its history and of those who have sustained it for the past forty years, and I trust that those who have conducted the work to the present time, may be followed by others equally zealous for the reputation of the club."

A beautifully illuminated address accompanied the testimonial, the text of which was as follows:—

"To Mr. John Huckle, Kings Langley, November 24th, 1893.—We, the subscribers to the testimonial presented to Mr. John Huckle at the Kings Langley Cricket Dinner, November 24th, 1893, desire to record in a permanent form our sense of his worth. We all recognise his readiness to help in every effort to advance the welfare of this neighbourhood, and that he has proved himself disinterested in motive, diligent in execution, and sound in judgment, and full of tact and good temper.

"The members of the Kings Langley Cricket Club even in its oldest days, and those of the Football Club, and the frequenters of the reading-room, and our musical and other entertainments, acknowledge how much they have owed to his energy and practical good sense, while the labouring classes remember with gratitude that, on two occasions, he was very active in finding them employment in times of great distress.

"With the view of giving a more enduring character to this expression of our sentiments, we have caused the above to be illuminated and framed, and trust that, from some central place in his dwelling, this memorial will look down for many years on his own improved health, and the success and prosperity of all his family."

Referring to the above Mr. Huckle writes as follows:—"Dear Sirs,—Will you kindly allow me to express to the members of the British Bee-keepers' Association and to your readers how much I value and appreciate the handsome testimonial which was presented to me on their behalf at Kings Langley on November 24th? I shall ever remember with gratitude the large amount of sympathy that has been shown towards me during the period of a long illness. Thanking you in anticipation,—I am, yours obediently, JOHN HUCKLE."

BEE ASSOCIATIONS AND THE PROMOTION OF BEE-KEEPING.

The Hon. Secretary of the Taunton Bee-keepers' Association writes as follows:—

"I forward by to-day's post a copy of the *Taunton Courier* containing a copy of a letter which I have addressed to our various local editors, and which has appeared in the *Somerset County Herald*, the *Somerset County Gazette*, and the *Somerset County Express*:—

"'Dear Sir,—As hon. secretary of the Taunton and District Bee-keepers' Association, I shall be thankful if you will allow me the opportunity of pressing the claims of the bee-keeping industry. Sir James Whitehead, at the Mansion House on the 1st instant, on the occasion of the presentation of English honey to the Lord Mayor, cited a remarkable yield of 142 pounds of honey from a single hive belonging to a member of the Kent Bee-keepers' Association. This return is, I believe, almost, if not quite, a record; but there is no reason why any cottager in our country should not add 2*l.* a year to his income by keeping a hive of bees on modern principles.

"'The Taunton and District Bee-keepers' Association has decided next spring to organize and carry out a system of lecturing, by which it is hoped that cottagers and small holders who already keep, or intend to keep, bees, may be assisted in the management, instructed in the modern methods, and helped to place their honey on our local markets in a tempting and business-like manner. When it is considered that several thousands of pounds' worth of honey is brought into England from abroad each year, and that foreign bee-keepers are at present endeavouring to extend their English sales by every available means, it seems a pity that through lack of instruction our agricultural population should allow what ought to be an entirely home industry to be thus swamped by foreign competition.

"'British honey is in every respect superior to all imported brands; and if any purchaser of honey will, as I did this week, visit one of our local grocers and ask to be allowed to compare a tin of foreign with a bottle of British honey, no further proof of my statement will be required.

"'Several gentlemen who are noted local bee-keepers have promised to assist, by lecturing and explaining the principles of the craft at the various meetings we hope to arrange for in the country parishes around Taunton; but while they are generous enough to thus devote their time and knowledge to the object we have in view, there will be a considerable amount of minor expenses to be met.

"'I therefore appeal for subscriptions to all who may take any interest in the welfare of our rural population, and who may wish to assist in giving them not only an enjoyable but a profitable pursuit for their leisure hours, helping to make the dull routine of a country life less aimless, and by cultivating an intelligent interest in their surroundings, make village life more cheerful. Bee-keepers of any and every grade in our district I will ask to join our ranks as members (the minimum subscription is 5*s.* per annum; cottagers, 2*s.* 6*d.*), for co-operation gives strength, and the advantages now offered will be still further augmented as our income and members' list increase.

"'The general public will, I trust, encourage our industry by refusing to purchase any but British honey. As a wholesome and toothsome delicacy honey may easily be added to the breakfast-table of many who now, I fear, regard it more as a pleasant cure for colds and sore throats than as a food product.'

"I have not long been hon. secretary of the Taunton Bee-keepers' Association, and there must be many bee-keepers in our locality whose names and addresses are unknown to me. Might I therefore ask you to assist us by inserting a paragraph requesting all bee-keepers in our district of Somerset to communicate with me.

"We have at present a scheme of reorganization under consideration, which will be fully discussed and definitely decided upon at our next general meeting, to be held in January or February, and I wish to give every bee-keeper in our parts a chance of judging whether the proposed scheme will be likely to prove useful to him if carried out.—ALF. WOLFE, *Hon. Sec. Taunton B. K. A., Hilland, North Curry, Taunton, Somerset, November 29th.*"

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

MR. WELLS' REPORT FOR 1893.

[1656.] I take this the first opportunity of forwarding the result of my bee-doings for the season of 1893. I dare say it is pretty generally known that my stock consists of ten hives, and that it was my intention to work all of them through the season with two queens in each. Unfortunately, however, I found, early in May, that one division of one of the ten hives had lost its queen. I was not very much surprised at this, as I had a great many visitors, and, of course, was anxious to show all of them the interior of at least two hives; so that my bees were lifted out of their hives and pulled about a deal more than was good for them. I was

quite aware of all this at the time, but had made up my mind to sacrifice their well-doing thus far until all had been supered, the brood nests not being disturbed afterwards. I explained to our numerous visitors, to the best of my ability, the way in which the system of two queens in one hive is worked. But, to return to the hive which had lost one of its queens, the queenless bees had nearly all deserted their portion of the hive and passed over into the other side of the division-board, where the one queen still remained; and I quite believe that every bee would have followed suit had there been room for them; but there was not, and, knowing that the remaining queen was one of superior quality, I decided to crowd the bees up to try and make them prepare for swarming. This they did at once, and in ten days there were seven queen-cells all sealed over, one comb having two queen-cells so close together that they could not be parted with safety. On the thirteenth day from the commencement of these queen-cells I divided the combs into five nuclei of two combs each, one with brood and one with honey, and placed four of them side by side in one hive. After removing these four lots, there remained one comb with one queen-cell and one with two queen-cells in the old hive. I next removed the old queen, with a few bees, on one comb, into a small hive, and gave them two other combs, setting it on the old stand to catch the flying bees, the old hive being shifted to a new stand and the bees crowded close up to the perforated division-board. The lot with but one queen-cell had only one comb, the others which had the two queen-cells having three combs. Of course, the bees were very much crowded, my object being to make them swarm as soon as one of these two queen-cells should hatch. It turned out just as I expected, though, of course, it was a small swarm; but my object was to save all the young queens.

Unfortunately, however, I have not been very successful in rearing nucleus stocks this year, though all the above seven queens hatched, and six out of the seven started to lay, and reared a nice lot of brood; but, by some means or other, four of them disappeared, which left me with but two young queens, whereas I required ten, as I like to have all my hives stocked with one queen in her first and one in her second season. In so doing there need be no fear about numbers of workers to collect the honey when there is any to be got; and, although all my other nine hives were crowded with bees, not one of them swarmed. Consequently, I removed several queens in August, my object being to start the bees building queen-cells. Some of them did start a few, and other stocks appeared as though they would rather remain queenless than rear young queens. At the end of about one week from the time I removed the queens, I gave them a fresh comb, containing eggs and young brood; but no queen-cells were started. Thus I was compelled to return the old queens, and with those few that did build queen-cells I only succeeded in getting four queens successfully mated. I have thus, after all, only six young queens, instead of ten which I required. In consequence of these mishaps, I have decided to run the four best old queens for a third season.

The honey season in this neighbourhood has been a poor one, and, although my bees gathered wonderfully well from plum, cherry, pear, and apple bloom, they did not do much afterwards, as the little sainfoin we had was grown about one mile away, and cut before it got properly into bloom. Of white clover, there is none of that grown about here to speak of, and the little surplus the bees collected after the sainfoin was cut was from all sorts of flowers. It also included some honey-dew, I judge, as it was darker in colour than usual; but the early surplus was very good.

The bees have acted very curiously this year, hives being so completely crowded with bees that, although there was not much honey in the surplus chambers, I had to add crate after crate to give them room. Those partly filled were raised to the top, and putting the boxes of empty combs next to the queen-excluder zinc above brood nests, in nearly every case the bees started to store their surplus honey in the empty combs of lower boxes, rather than carry it to the top and finish off the combs partly filled. My surplus has therefore been scattered over a large number of combs, and I think that not more than half of them were very nicely filled.

But towards the latter part of the season a great change ensued, and I never knew bees to store so much honey in the brood nest when they had plenty of room in the surplus boxes overhead. I do not try to get many sections filled, not having much sale for comb honey. I only put on four crates, each containing twenty-seven one-pound sections. These were nicely filled in the early part of the season. I have not had to buy any sugar for feeding, because for such hives as require extra food for wintering I had plenty of heavy combs of natural sealed stores. I have still a good number left ready to slip into the hives in the spring should they be needed.

I remember that some of your correspondents last year considered that I put too high a price on my honey and wax, but I did not value it at a higher price than it fetched. Anyway, I propose to place a less value this year on it, although I have no fear of it not bringing a higher figure than the price I put upon it. The price shown below does not, therefore, mean that I am prepared to sell at the prices given, but merely to strike a kind of balance for the year. In this way I set my results as under:—

	£	*s.*	*d.*
103 one-pound sections at 9*d.* each ..	4	1	0
1115 lbs. extracted honey at 6*d.* per lb.	27	17	6
19 lbs. beeswax at 1*s.* 6*d.* per lb. ..	1	8	6
Total	33	7	0
Less total expenditure	1	0	9
Balance for labour	£32	6	3

Now, bearing in mind that I did not get any surplus at all from the hive which, after losing one queen in the spring, was afterwards broken up into nuclei, the amount shown was from the nine remaining hives, showing an average of nearly 136 pounds per hive. This is very satisfactory to me when compared with what others have done in my immediate neighbourhood, for I find, after making inquiries, the most that has been taken from one hive in my neighbourhood with but one queen in a hive is forty pounds, and this same hive had very little stores in brood nest, and had to be fed up for the winter. Taking into consideration that I have not had to give my bees any sugar at all, it becomes conclusive to my mind that it is impossible for single-queen stocks to hold their own against those stocks with two queens.

If any of your readers insist on counting my harvest as coming from ten stocks, it would amount to a little over 122 pounds each hive; but, as I have said, the tenth hive gave no surplus.—G. Wells, *Aylesford, Kent, November 24th*, 1893.

DO BEE-KEEPERS ADULTERATE HONEY?

[1657.] Will you kindly allow me to express my regret that you permitted the letter of your correspondent, "Honesty" (1639, p. 468), to appear in the *Bee Journal?* His former letter (1602, p. 428), containing a general charge of adulterating honey against bee-keepers as a body, was harmless, and has been rightly treated as unworthy of notice. But this second letter contains an insinuation against the honesty of an individual, and is very little removed from a personal slander, and therefore should, I submit, have either been left out altogether, or followed by the withering kind of foot-note which editors know so well how to apply.

I know nothing of "The Heathen" personally, but I am proud to say that I know a great many bee-keepers, and, from my experience of them as a class, I am quite sure that neither he nor any of us in this country would put adulterated honey on the market. As for the miserable little peg on which "Honesty" hangs his insinuations—the detection of adulterated honey—we can very well leave that to our customers. Any child can tell good honey from bad by the taste, and there would be no more dealing with the bee-keeper who supplied the bad. But putting trade on one side, there is too high a standard of morality among bee-keepers for there to be any need of means to detect adulterated honey. I am proud to believe that we supply pure honey to our customers, not because it pays, but because it is *right*.—L. B. Birkett, *November 27th*.

[At this dull season of the bee-year, we are rather pleased than otherwise to allow space in our columns for communications which in busier times we could not possibly find room for. We refer to that class of correspondence which has in it so much of a necessarily personal character as is more than likely to provoke retort. A fair sample of such is the "Mixed" letter of our correspondent, "The Heathen," on p. 450 of our issue for November 9th last, a letter couched in language not intentionally offensive, we are sure, but a missive such as would be certain to "draw" each and every one referred to in it who happened to be of a sensitive turn. Now, there is as little real harm in this as in discussion of any kind, "provided always"—as the legal phrase goes—that personalities are carefully avoided. This is at all times desirable, and our correspondent, Mr. Birkett, will, we trust, pardon us for saying that the severe strictures contained in his own letter render it not quite free from objection in this way. As to "the withering kind of foot-note" which he considers should follow such communications as are offensive, we can only say that the most disagreeable part of an editor's duties are those connected with that class of foot-note on the one hand, and the waste-paper basket on the other. What we desire to see is contentious matter fairly dealt with by all concerned, and in a manner calculated to give little or no offence. That our correspondent, "Honesty," is entirely wrong in supposing that bee-keepers systematically adulterate their honey for sale purposes, a little experimenting in that line would soon convince even "Honesty" himself. But, on the other hand, however satisfactory Mr. Birkett's experience of bee-keepers may be (and it *is* satisfactory to find men thoroughly honest), there is, we regret to say, evidence in our pages to prove that, so far as exhibiting goes, some of us do not quite bear the character attributed to the wife of Cæsar. We therefore trust we shall be in agreement with the bulk of our readers in deeming it desirable, when dealing with correspondence, to confine ourselves to deleting personalities so far as we can, and hoping that correspondents will refrain from indulging in them. Beyond this, we repeat that the winter-time affords the best of opportunities for the free and full discussion of all topics interesting to members of the craft, and *our* duty will be, in a measure, indicated by quoting a well-known authority, who jokingly said "it took him all his time to keep bee-men from springing at each other's throats."—Eds.]

WHAT CAUSED THE SCARCITY OF SWARMS?

[1658.] During an abnormal season, such as that we have lately experienced, bee-keepers have had little cause to adopt swarm-catchers or non-swarming devices, at least where the bees have been allowed to follow their own course. And it is just such a summer as that now past which shows what a large number of bee-keepers there are who are content to allow the bees to manage as they think best, notwithstanding the advantages offered by the bar-frame hive.

The general absence of the desire to swarm from the small hives mostly used, which was, in fact, the absence of the usual rate of early spring increase of numbers, was caused by the unusually early honey season compelling the bees to fill up so many cells with honey, and more particularly with pollen, before the brood nest could be sufficiently developed.

Such was the case where the bees were not assisted, and in many instances the population of the hives showed no increase during the usual swarming period. The brood nest was small, and so surrounded with honey that the bees had no inducement to start queen-cells; consequently many apiaries gave no increase at all, and one of twenty skeps, not many miles from my place, supplied only one swarm from the lot.

All happened from the same cause, and yet it has been one of those exceptional years when early swarming would have been exceedingly profitable, and, moreover, one of the most favourable seasons ever known for securing that desirable increase of numbers so necessary for sustaining the long-continued labour required during month after month of remarkable bee-weather.

Those districts most favourably situated for the earliest supply of honey would give the worst returns later on where no effort was made to secure room for the queen in the first instance, though one is compelled to give some credence to the statements made in several quarters, where blame was laid on the extra-dry weather for the short crops secured.

Careful management has, in some quarters, resulted in a surplus of 150 to 160 pounds from a single stock, and this is no more than should be expected in a fair district during such a fine harvesting period as the recent extraordinary summer. Many who secured no more honey than usual, if as much, would have had their hives full to overflowing, with both bees and honey, had the heavy outer combs been removed, allowing new combs to be built towards the centre; as also if artificial swarms had been made, and caused to build all new combs from foundation or otherwise, thus securing a brood nest, such as it was impossible to gain in any other way, seeing that even by extracting from the original combs the unusual quantity of stored pollen would still have been a great impediment to the development of a compact brood nest.

It should scarcely be necessary to repeat what has already been explained, that scientific management is only carried out by the bee-master who studies the peculiarities of the season, and conducts his manipulations in accordance therewith.—SAMUEL SIMMINS.

A NEW METHOD OF HANGING FRAMES.

[1659.] You will perhaps be surprised that an hotel proprietor in the city of Sheffield should write you about bees, but having a country house in the neighbourhood of the "Dukeries," Worksop, where I keep a few hives of bees, I thought I should like to ask your opinion as to an invention which I have brought out. I have been a reader of the *B. B. J.* for the past three years, and have seen many complaints of frames in hives not hanging parallel with each other, thereby causing the combs to be crooked and out of shape. By my invention the frames are held perfectly parallel with each other, no matter in what position the hive is placed, other than upside down. It does not interfere with the space or the working of the bees: does away with the need for metal ends; in travelling it is impossible for the frames to get out of place and crush the bees (if the foundation is wired): and it will do for shallow frames as well With your permission, I will send a hive to the *B. B. J.* Office for your inspection, if it would not be too much trouble for you to show it at the next quarterly *conversazione* of the British Bee-keepers' Association. I am about to register the same. An answer through the *Bee Journal* to say if my request can be complied with will be esteemed.—H. B.

[If the hive is sent to this office, we will see that it is placed before the meeting at the next *conversazione* of the B. B. K. A.—EDS.]

MISHAP WITH BEES.

[1660.] Referring to my query (920, p. 481) On opening my hive two days ago, I found it was not the naphthaline that had caused the mishap with my bees. It was my own fault in not taking off the cover in order to see what the trouble was. On doing so I found out that when putting on the cake of candy over the feed-hole I replaced the quilting as before, but it did not lie close enough to stop the bees from getting out, and what I found on opening the hive was several thousand of bees dead and dying. I saved a few by putting them into a box and warming them at the fire. The trouble was caused by the bees not being able to find their way back to the queen under the quilting again; had I examined the hive sooner, I might have saved a great many more. I have got on well up to now with my bee-keeping, although only a beginner. I am almost inclined to unite my two hives now, though it is rather late for such operations, is it not? I had the naphthaline from your office, and used it as directed, but did not attribute the trouble to it; I like the odour of it and shall use it again.—F. W. MORBY.

[If both stocks are weak in bees they should be united on the first fine day.—EDS.]

RESULT FROM MY "WELLS" HIVE.

[1661.] I have tried the "Wells" system, and found it a great success. I made a "Wells" hive myself last year, from reading the *B.B.J.*, and got it in working order with two swarms, the first of which came off on the 1st of June, and the second on the 9th. The hive was got

to the heather in the first week of July, and when it came home on the 2nd September the gross weight was two hundredweight. I have the body hive left, well provided for winter, and in good order for 1894, while the surplus boxes, when taken off, had in them 116 pounds of heather honey.

I am going to make other two hives on the same plan for 1894. Reading Mr. Tustain's report (1652, p. 478), and remarks about the dummy, I simply wish to record my own success. The wood one is best, as it does not draw damp, and I think it answers its purpose well. This year was the best since I started with bees, seven years ago. Many thanks to Mr. Wells.—ANDREW ARCHIBALD, *Cambuslang, December 2nd*, 1893.

BEE-REMINISCENCES OF THE PAST.

[1662.] Another year has been added to the record of the world's history, and we bee-keepers are that period nearer to the great end of things terrestrial; it therefore behoves us all to look around and see what advancement has been made during the past year.

Among the improvements, the "Wells system" is a notable one. Among those we are awaiting may be enumerated a standard honey bottle, a perfect swarm-catcher, a non-swarming bee, and a total absence of dishonest practices on the part of bee-keepers!

My object, however, in writing now has mainly to do with things of the past. It is always pleasant reading, during the long, dull evenings, to look up the works of old writers on our favourite subject, the bee, and to my mind it opens up a wide field for speculation as to what readers of such literature 100 years hence will think of our present bee-doings. That we have advanced during the last decade none will doubt, but in my reading I can distinctly trace many operations of the advanced bee-man of to-day which are practically the same as those employed by our forefathers 100 years ago, although the old methods of accomplishing the same end were much more crude than ours. But, while this is so, there are a few things in which modern improvements are very great.

Apart from all this, however, I think it will interest your readers in this dull season to give a brief record of a few of the strange things our forefathers thought and did 100 years ago.

At that time it was thought proper to use many rather filthy messes for cleaning and purifying hives, especially where stocks had died in them—also for stopping up cracks and making hives waterproof; one advising that hogs should be fed in hives before being used a second time, and the mess and slime left by the animals smeared round to make the hive "wholesome." Others advised that hives should be washed in "good ale and honey" before being used, so as to "comfort and console" the new-comers. Of course, we all know about the merciless use of the sulphur pit, but it is more than a century ago since authorities on the subject pointed out the way to deprive bees of their stores without killing them, and in the appliances then used there are distinctly rudimentary bar-frame hives with both movable or partly movable and fixed frames. They also had a "divisional hive," and "collateral hive" and body-boxes; nor were the advantages of supering unknown, for I find glass supers, and also straw and *wooden supers*, in use, with instructions as to removing same much the same as now.

Our forefathers had also curious ideas as to the bees themselves. One calls them domestic animals "living together," consisting of common bees, drones, small drones (at certain seasons of the year), and "kings," of which "there may be three in a hive, but sometimes only one"—the then idea being that the drone took no part in the economy of the hive; and one writer advised bee-keepers to "sit beside the hive and kill them between the finger and thumb as they came out." (!)

Huber considered there were two kinds of workers. The first he called *Abeilles cirières*, or wax-makers, whose duty it is to "elaborate the wax and lay the foundations of the cells." The second he calls *Abeilles nourrices*, or bee-nurses, who complete the cells, feed the young, and collect honey, &c. As to swarms, it was considered that the new king always came out with the prime swarm, and that the old sovereign always remained to superintend matters in the parent hive, so that if they "took" or "put down" a hive at the end of the season it was always the old stock, for this reason. I believe it was Bonner who, about 1790, first declared that the king was no king at all, but a queen, and the mother of all the bees. It was also taught that more than one queen would be tolerated in a hive, and that if a strange queen entered she was received with pleasure, "*as an assurance of a more numerous posterity:*" that "during the winter season the queen was the sole tenant of the hive, and lodged in its most secret part;" also that "the bees had very little regard for the person of the queen, but their respect was due to her sovereign dignity," and that they followed her with "grave and sedate tread."

As to wax, it was considered to be of two kinds, both *collected by the bees from flowers*, &c.—one being the ordinary wax, and the other a wax "which is a sort of glue," and it was considered that a hive was in a flourishing condition when "*bees came home loaded with wax of all colours on their hind legs.*" One author gives an illustration of a bee's leg loaded with *wax*.

As to the young bees, one writer states that he has seen bees issue from cells on about the twentieth day from the eggs, and on the same day has observed these identical bees "return from the field loaded with wax which they have gathered from leaves." The same author asserts that "bees are in the habit of carrying small stones as ballast should the wind be rough!" As to honey-dew, this was then considered, if not perfect honey, at any rate very good; and

none doubted but that it was honey. The Abbé Boissier de Sauvages, in a memoir read at Montpellier in December, 1762, informed his hearers of a discovery of two sorts of honey. First, that which flows in plenty from the leaves and trunks of the ash, maple, and the holm-oak, and other vegetation; and adds that the honey-dew was found "on the old leaves of the oak, and not on the new which covers the old." "Second, that which was the excrement of a sort of vine-freter, which makes a part of the most delicate honey we taste."

Another writer says:—"Bees gather honey and wax on the alder-buds for half a year together, and on the maple-buds for a month; but the greatest store of honey is drawn out of the black spot on the little picked leaves of the vetch which grow on each side of two or three uppermost joints. These they ply continually." And also on the black spots on the leaves of beans. They also prefer the white honeysuckle to the red; "but the greatest plenty of the purest nectar cometh from above, and the oak receiveth and keepeth the same on his smooth and solid leaves, which, when the honey-dew falls, shall have more upon them than all the other plants."—"At this time you have bees up in the morning as early as they can see, making such a humming noise where they go, like merry gossips when they meet; and man may hear them further than he can see."

Then I find it stated "that honey-dew has, in general, been erroneously supposed to be a dew which falls indiscriminately on all plants alike, whereas the true honey-dew is an exudation from the leaves of a few species only," and names the oak, maple, sycamore, lime, hazel, and blackberry, in the order named; and the same writer adds that "this substance is as transparent and as sweet as honey—in fact, *it is honey*."

As to the quality of honey, it was advised that it should not be left in the hive, as the flavour and colour would deteriorate, and the honey be spoilt, by the heat and perspiration of the bees, in the same way as is evidenced by the colour of old and new comb.

(*Conclusion next week.*)

NORTHUMBERLAND AND DURHAM BEE-KEEPERS' ASSOCIATION.

In order that local bee-keepers may have an opportunity of learning from Mr. Wells himself full particulars of his system of working with two queen in each hive, this Association has arranged for addresses by Mr. Wells at the following places:—December 11th, 1893, Newcastle; 12th, Consett; 13th, Whittingham. Mr. Wells will also be present at meetings under the auspices of the Northumberland County Council as follows:—December 14th, Cambo; 15th, Bedlington; 16th, Riding Mill.—J. N. KIDD, *Hon. Secretary.*

WEATHER REPORT.

WESTBOURNE, SUSSEX.

November, 1893.

Rainfall, 2·31 in.	Sunshine, 65·5 hrs.
Heaviest fall, ·38 in. on 30th.	Brightest day, 12th, 7·3 hrs
Rain fell on 17 days.	Sunless days, 8.
Below average, 1·17.	Above average, 10·9.
Max. temp., 58° on 3rd.	Mean max., 43·5°.
	Mean min., 34·8°.
Min. temp., 24° on 1st.	Mean temp., 38·4°.
Min. on grass, 18° on 24th.	Max. barometer, 30·46 on 29th.
Frosty night, 11.	Min. barometer, 28·99 on 18th.

L. B. BIRKETT.

LECTURE ON BEE-KEEPING AT STOKE PRIOR.

Under the auspices of the Worcestershire County Council, and in connexion with the Worcestershire Bee-keepers' Association, the Rev. E Davenport gave the second lecture in Stoke Prior Schoolroom on Tuesday evening, November 28th, on "Bees and Bee-keeping," illustrated by a series of limelight views. The Rev. Charles Stockdale (vicar) presided, and there was a much larger attendance of local bee-keepers and others than at the lecture on the previous Tuesday. The lecturer, in the course of his remarks, said he wished it to be known that the three essentials for good results were a good locality, strong stocks, and suitable hives, and, in addition, the apiarist must have coolness, courage, and common sense. A badly constructed hive meant continual worry and loss to the owner. Various hives were described and views of different apiaries and pictures of the bee-master manipulating his hives were admirably depicted upon the screen, Mr. Chas. Harvey, as before, attending to the lantern. At the close of the lecture, Mr. Davenport said he would be pleased to answer any questions put to him concerning bee-culture, and several present took advantage of the opportunity. The Chairman proposed a vote of thanks to Mr. Davenport for his two admirable lectures, in which he had been greatly interested, and had no doubt that others present had also. He also wished to thank Mr. A. E. Woodruff for organizing the lectures, and he hoped no little good would accrue from his efforts.

Mr. A. E Woodruff said he was pleased to see so many there. There was one gentleman present who had *come no less than six miles on foot to listen to Mr. Davenport*, and he trusted the rev. gentleman would be able to come again and convert more to the bee-faith. He hoped the time would soon come when Stoke Prior would possess a bee-club, with the Vicar as President, and the members of the club meeting fortnightly or monthly to compare notes and assist each other in the management of their little favourites.

BEE LECTURE IN WESTMORELAND.

The Rev. J. Marshall, vicar of Tatham Fells, gave a lecture on bee-keeping in the schoolroom, Lupton. Mr. C. E. Mumford presided. Mr. Marshall, at the outset, gave elementary instruction in bee-keeping in a conversational and humorous manner. He referred to the old style of bee-keeping in skeps, and sketched in chalk an amusing picture of the wholesale murder of the inmates of the hive by sulphuring to extract the honey. Then it was impossible to tell how the work of honey-making was going on inside. Now all this was altered by the introduction of the new bar-framed hives, which were thoroughly explained by the lecturer. At this point in the lecture comb foundation and specimens of honey were passed round amongst the audience. The lecturer then explained the duties and relations of the queen-bee with the rest of the hive, and, after speaking of the drones and workers, showed the method of taking swarms and feeding artificially during the winter. Not the least interesting portion of the lecture were the sketches on the blackboard, which evoked much good-natured laughter. A hearty vote of thanks was given to the lecturer, the Rev. J. Whiteside observing that it was one of the most enjoyable lectures he had ever attended. While advanced enough for experienced bee-keepers, it had yet been sufficiently simple for those who, like himself, were ignorant of the subject.—*Communicated.*

THE PRODUCTION OF COMB HONEY.

In a paper read before the Convention of North American bee-keepers, held at Chicago on October 11th, 12th, and 13th, Mr. R. F. Holtermann, when referring to the question of "Management" in the production of comb honey, said:—

"And now comes management. The bees should have plenty of stores in the fall of the year, they must be wintered well, and every hive should have plenty of stores so the bees in the spring need never curtail brood-rearing on account of shortage of stores. All that applies to the building up of colonies in the spring applies to the successful production of comb honey.

"I take issue with the statement that bees can get strong too early; such a condition never was and never will be. The opposite, too weak colonies at the honey-flow, alas! is too nearly the rule, and reduces the number of pounds of honey we get per colony. If a colony gets crowded in the lower story and the time has not arrived when sections should be put on, I place an extracting super with a queen-excluder (or without as I see fit), and at the proper time replace this with comb-honey supers. With extracting supers on the hive there is at this season practically no excuse for swarming. All hives should be placed on secure stands and in every case a spirit level used. There is no serious objection to the hive leaning forward a trifle, sufficient to shed rain, but sideways they must be perfectly level. The greatest cleanliness should be observed, bottom boards, hives and top bars scraped, and only such old stocks as have bright, clean combs run for comb honey. Full sheets of foundation should be used in the sections and the foundation as light as possible and of the best wax. I prefer wax made from cappings and taken by the solar wax-extractor for this purpose, but in this matter the supply dealer is at the mercy of the bee-keeper, and it rests with the latter what kind of wax shall be used. When I make the statement that light foundation should be used I am at variance with some leading comb-honey men, but while it is a fact that the bees will thin down the foundation, there are seasons and times when they will not do this, and against this we must guard in order to avoid making the article unpopular. I used a bait (one of last year's sections) in the supers. I have also tried supers without, but can find no great difference. Swarming is an important factor in the production of comb honey, and the longer one works for this the more confident one must feel that no one who wishes to make comb honey to perfection will ever care for any device to prevent swarming entirely. No apiary should be run for comb honey alone, and in running for comb honey the only object kept in view should be the production to perfection of this article. To do this swarming must take place. From clean parent colonies good comb honey may be secured, but rarely so good as from swarms. When the bees swarm they should be hived on the old stands and either on very narrow strips of foundation about half an inch deep or on full sheets. Localities undoubtedly vary as to the amount of pollen deposited in the combs, and in a locality in which the bees gather an undue amount of pollen I should say try and make them draw out frames of foundation early in the season, and hive the bees upon these combs. Failing this, use full sheets of foundation. The object of using these full sheets or combs is to assist in preventing pollen from being carried into the sections. In localities where pollen is not troublesome the bees should be hive on starters and, after allowing one complete day to pass after time of hiving, put supers on the hive. I have not much faith in added energy through swarming, but the bees have at the commencement no brood to care for and feed, and they give better results as to surplus. If sections on some old stocks are about ready, it is a good plan to give these to swarms to finish. They will make very rapid work in finishing them. Now as to the combs which will be built from the starters, we know when a young queen is in the hive the bees will be less inclined to build drone comb, but is this condition practicable for a comb-honey producer? I think not. The plan of re-queening with young queens before the honey-flow is not desirable, from the loss of time resulting from introduction of new queen and taking out of the old one. The truly successful comb-honey producer must be ever on

the watch to improve his stock in this direction. He should know by numbers what supers have been finished by every colony, and when he notices section supers, with well-capped comb and free from brace comb and propolis (this latter characteristic should be especially observed), he should note that hive, especially if the amount of honey secured has been large. Next season he should breed from such a queen and so on, producing from year to year a better strain of bees. I am not saying a word against queen-breeders. I am a queen-breeder myself, but a comb-honey producer should have a strain of bees which, although they may not be the best in the world, yet must be of sufficient value to him to cause him to replace them with extreme caution and only with something tried by himself. To prevent deterioration some new blood must be introduced each season; it is then impractical to have young queens with swarms, and often with such queens their will be an undesirable amount of drone comb. I have within the last two weeks seen the result of an extensive experiment conducted by S. T. Pettit, of Belmont, Ontario, under the following directions:—

"The swarms were each given one or two frames filled entirely with drone comb, the balance being starters, with the hope that the bees would be furnished with worker comb, but they appear to have no power of reasoning and in every instance appear to build as much drone comb as if the first combs had never been given. For extracted honey I favour full sheets of foundation every time, but for comb honey my arguments for starters, unless in exceptional cases, are these: We are trying to get the most honey out of these bees and we want the best product; if we do not care for much increase, we can shake the bees from these combs after the season is over and destroy them. If we wish to winter them we can put them on good combs and feed them on sugar syrup for winter stores. The combs built by the bees can be patched up to the best advantage, the old hive placed directly behind. The old stand can be treated thus: shake almost six days after swarming a good many bees from the comb, adding them to the new swarms in front, and either utilise the comb in another place or put the hives on new stands and let it build up for winter. I am never troubled with second swarms. The location of an apiary has much to do with swarming. In places where the air can freely circulate the amount of swarming will be reduced, the nature of the soil even will have an influence. I like the apiary on sod and the hives to be placed under the outer edges of the shade-trees. I never give in the production of comb honey any upward ventilation, and herein lies an important secret towards securing white and clean sections. The bees resent such a current of air, and when given begin to propolise, and soiled sections are a result. A quilt should not be used unless a heavy cushion and a heavy lid be placed above to prevent the bees from pushing the quilt off. I like a honey-board and a quarter-inch bee-space above the combs. Shade-boards are used on top and even sides of hives. They are a great advantage. It is unnecessary to say that no one can engage in the successful production of comb honey with one super only, and yet there are many who think such a practical economy. Before the advent of the bee-escape I drove bees out of the comb-honey supers by spreading over them a cloth dipped in a weak solution of carbolic acid, the cloth being wrung almost dry before spreading. This works very well, but the bee-escape still better. My system is to produce a certain amount of comb honey. This prevents 'cull' sections, except in very exceptional seasons. Nothing has been said about any kind of feeding. To feed back extracted honey means to put upon the market comb honey which will quickly granulate and this will displease the customer, and is therefore undesirable. To feed anything else should never for a moment be listened to, never be even thought of. To practise it would surely bring swift retribution. Only a choice article should be aimed at even if we never exhibit, for by so doing we place ourselves to a certain extent out of reach of competition. We command highest price and a ready sale."

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JOHN EASTBURN (Yeadon).—*Bees leaving their Hive in Cold Weather.*—If as stated bees are well provided with food and warmly wrapped no more can be done to ensure their well-doing. It is not natural for bees to leave their hives in such cold weather as we are now having, but unless a very unusual amount of commotion is seen, we should not be alarmed for the stock. A few dead bees seen outside entrances at this season may mean little or nothing.

R. BAYLEY (Godalming).—*Varnishing "Wells" Dummy.*—We do not think that varnishing will help to prevent bees from propolising the perforations in dummy, if they are so disposed, though Mr. Wells—in making his own dummies—carefully burns the holes with a hot wire after boring to remove the roughness left by the bradawl. He also smooths the surface of dummy on both sides with sandpaper.

JOSEPH MOTT.—If you will write queries and leave space for reply, we will endeavour to meet your views; but we much prefer to give replies in the usual way.

THE

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Editorial, Notices, &c.

FOREIGN COMPETITION.

Few among those whose lot it is to have to labour for what they eat, or the wherewithal to provide for their other worldly wants, will fail to have had brought home to them the strain under which many of our home industries are at present labouring in consequence of what is know as "foreign competition." It is neither within our province, nor is it our desire, to touch party politics any more than to argue questions of political economy, or discuss free trade, or fair trade, or any of the social problems at present occupying the attention of thoughtful men. But we cannot shut our eyes to the fact that foreign competition is just now a source of trouble to this country of such magnitude and importance that it forces itself upon us in spite of ourselves by reason of the countless ways in which it comes home to us as individuals.

The facts now being brought to light at the sittings of the Royal Commission on Agriculture go far to prove that the condition of the agricultural interest is well-nigh hopeless in some counties, unless some change in the present order of things is brought about. When an estate in England shows a decrease in net receipts from 47,000*l.* a year in 1887 to 12,000*l.* a year at the present date, the outlook cannot be other than serious; and if, with rents reduced forty to fifty per cent., the farmer finds himself still unable to hold his own against his foreign competitor, there must be a screw loose somewhere which sadly needs tightening somehow.

Not to mention the many industries outside the scope of the Commission in question, the same cry goes out in reference to grazing farms, grain growing, dairy farming, fruit culture, poultry farming, and, last, but to readers of this *Journal* not least, honey producing. Everywhere from those who live by the land a loud complaint is heard, "We are being undersold by the foreigner." And the exasperating part of the business is, that so many of the things produced abroad are palmed off on purchasers as of native growth—the methods of carrying on this species of fraud being remarkable in their ingenuity. It needs but to read the evidence given before the Royal Commission in proof of this, and it brings forcibly home to us the fact of just where our hope and safeguard lies, viz., in the passing of such restrictive laws as will ensure to the consumer full knowledge of what he is buying, so that he may not be defrauded in his purchase. This done, it is of course free (and rightly free) to every one to purchase either food or goods of foreign production, or decline them, at his will.

Most of the witnesses whose evidence given before the Commission reveals grievances of this kind base their complaints on the barefaced way in which the Trade Marks Acts are evaded, and foreign produce is brought here and sold as British, thus plainly, though inferentially, showing the superiority of the British article over its foreign rival. Various opinions were elicited, by means of which the home-grown article might be distinguished from the other, and so claim its higher value. The Trade Marks Acts have done something in this direction, and no doubt the ultimate result of the Commission now sitting will be a further extension of the protection afforded by these Acts.

This is all we may hope for by Act of Parliament, for we suppose it will be admitted that the Briton is not quite sufficiently patriotic to prefer what is "home-grown but inferior" to a superior article produced elsewhere. He has a

decided weakness for the *best*, and will not grudge a better price for it. Take beef and mutton for instance; no one will pretend that American beef or Colonial mutton can be compared for flavour or quality to our own, and what gives the native grower as well as the consumer just cause of complaint is that the one is palmed off as the other.

A correspondent suggests that steps should be taken to obtain some security against this sort of fraud by Act of Parliament. Unfortunately, however, Acts of Parliament here are not to be had for asking, and we may safely say that, for some time to come, bee-keepers must look lower down for help in the matter. What is possible should be done by our County Associations, by taking every legitimate means to foster the preference for British honey, first, by teaching their members to put only good honey on the market; and second, where personal supervision or assistance in securing sales is not possible, to adopt a distinct label for every county; this label to be copyright, and issued only to members under strict regulations. We see no other practical way in which foreign competition—so far as it touches our particular industry—is to be met, and in view of the recent widespread interest aroused in the question of British bee-keeping, the present is a very favourable time for County Associations to take action in the direction we have indicated. Annual meetings will soon be held, and the opportunity these gatherings afford should be utilised for discussing the policy to be adopted in the coming year.

The British bee-keeper knows full well that in this country a very general preferance is given to British honey, and so *our* grievance is that the consumer is so frequently imposed upon by having sold to him as British, a product which has not been gathered here at all. That we have substantial cause for complaint is proved by tottiug up the value of the honey imports for the year 1892, as shown in the monthly report furnished to us by the Statistical Office of H.M.'s Customs. 62,727*l.* worth of foreign honey landed in this kingdom in twelve months is not a *very* small matter for British bee-keepers to ponder over—to think how exceedingly nice it would be to have had all this gathered at home, and to have the thousands of pounds it represents in their own pockets!

LINCOLNSHIRE BEE-KEEPERS' ASSOCIATION.

Now that all active work in the apiary is over, and individual successes recorded, it may interest some of your readers to know of the work done during the season by the above Association, more especially as it has been occasionally asserted that the work of Associations was now superfluous.

At a good number of District Exhibitions the Executive Committees have been persuaded to include a honey show among their attractions. Some of these shows are attended by many thousands of visitors, who have never failed to take a great interest in the honey and bee department, and the lectures, where given. In one case the Secretary received a letter from the Committee of the Show thanking him for sending the bee-tent, and stating that they were much interested in the manipulations therein by the Expert of the Association, and "they had come to the conclusion that the bees had had their stings taken out beforehand!"

The full list of shows referred to above at which prizes were given for honey, &c., is as follows:—

July	10th	Scotter.
,,	27th	Wragby.
Aug.	2nd	Blankney.
,,	3rd	Stickney.
,,	5th and 7th	Lincoln and Bracebridge.
,,	7th	Elsham and Worleby.
,,	10th	Wainfleet.
,,	17th	Mablethorp.

The duties of judging at the above shows were undertaken by the following gentlemen respectively:—G. J. Young, Esq., J.P., Dr. George, and Messrs. H. O. Smith, R. Thorpe, J. Bint, R. Godson, and G. Bywater.

Mr. H. O. Smith lectured in the bee-tent at Scotter, Lincoln, Elsham, Wainfleet, and Mablethorp, Mr. F. J. Cribb undertaking the same duties at Blankney.

In addition to the above, short lectures have been given in the bee-tent at Heckington by Mr. Smith, and at Lincoln Allotments by Mr. Cribb, the latter gentleman being at present engaged in delivering lectures in different parts of the county under the auspices of the County Council of the parts of Lindsey, who gave a grant of 25*l.* to the Association for the promotion of bee-keeping.—*Communicated.*

DEATH OF THE PRESIDENT OF THE LINCOLNSHIRE B.K.A.

I am sorry to have to inform you of the death of the Right Rev. the Lord Bishop of Nottingham, President of the Lincolnshire Bee-keepers' Association. He has been President since its formation in 1872, and has been a great friend to the cause. We shall miss him very much indeed.—R. Godson, *Hon. Sec. L.B.K.A., December 11th*, 1893.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*The Manager, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C."* (see 1st page of Advertisements).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

MY OUT-APIARY.

[1663.] I have kept bees since the year 1879, and during the whole of that time have never experienced so good a season as this. In this district we are often troubled with "honey-dew," so that oftentimes we have to extract the clover honey before the limes are in blossom. This year, however, the season ended in the middle of July—clover was all parched up and limes had blossomed, being quite a month earlier than usual—and although at one time "honey-dew" abounded, the bees did not touch it. By the last week in July we had taken all the honey, and for once it was a real pleasure to take it. No robbing bees, no grading of quality, for it was all alike clear and transparent, thick, and yet not clogging the cells, and of most delicious flavour. No trouble either with sections, for had I not made a "clearer"—it took me ten minutes!—to put under the crate, so that in a few hours they were quite clear of bees and not a cell broken? We tender to the inventor of this, to the inventor of the frame hive, the extractor, sections of wood to contain honey, last—and shall I say, best of all?—comb foundation, our utmost gratitude. The popularity of bee-keeping to-day is the outcome of these inventions, and of the researches of eminent bee-keepers, who have cleared away the mist which has been hanging round the dome hive for so many centuries. The reward for them must be in the knowledge of the good those inventions have done, and will do yet. Their reward will be assured when every flower in these British Isles—from the white clover, abundant as the grass-blades in our rich lowland meadows, to the wild thyme, the ling (which loves the tinkling of each highland burn), to every starry flower of field or hedgerow—shall be visited and bent by the honey-bees!

Another thing which tended to make the honey-taking a pleasure was in having the combs used for extracting newly built from comb foundation, but wired. The honey was sealed from top to bottom of frames, but it came away very freely, soon filling the extractor up to the cages. The house was a house flowing with honey; it seemed to get, unaccountably, on the door-knobs, the cat, even the pump handle! The servant's finger, too, must have got sticky, for she sucked her finger continually and declared she had not touched any!

I have an out-apiary. It has dwindled to one hive. It is worked on the "Let-me-alone" principle, and is in the garden of Mr. Bunn, ten miles away. The self-same Mr. Bunn, by the way, who helped us hive our long-to-be-remembered first swarm, for an account of which see "Reminiscences," *B. B. J.*, Vol. XVI., page 201. This hive has been neglected. The present bees knew nothing of the terrible smoker, nor had they had the opportunity of testing the benefit to be derived from the smell of Webster's fumigator. They had not supped from "medicated" food, neither were they lulled to sleep in the cruel winter months with the scent of sweet naphthaline. There was only—fancy!—one queen in the hive, for Mr. Bunn—fancy!—had not even heard of the "Wells system." He had heard of the same idea, perhaps, twenty years ago, but knew nothing could come of it. No! The bees were there in blissful ignorance of all these things. A puzzle was there, too, a section crate, but he had not put it on to amuse them. I had not visited my out-apiary for twelve months, but in the beginning of the thirteenth the desire came to me to go and see, and I went.

The morning was a delightful one, and especially enjoyable to me, for these were the lanes that I had tramped as a boy, deep lanes with grand old banks—gardens in themselves—in the spring white with wood-sorrel and stitchwort, blue with speedwell; in the summer red with campion, white with cresses, green with bracken, fern, and bramble, blue with beds of graceful hairbell. Deep lanes which were almost twilight in mid-day, for hazel that I could climb up now met overhead, bryony draped it, honeysuckle and briar ran up, hung over, and threw down a shower of blossoms. Holly with greenest bark, hawthorn rich in flower and berry, ash and maple grew at their own sweet will, and formed for the birds, who built in them, a forest. These were the fields where in flowery hollows we used to chase the blue butterfly and white; the small copper, and pause—even then—before we struck, to admire a "peacock" with a palpitating wing upon a head of thistle; and in the early morning, pure white mushrooms blushing underneath rose up among the dewy grasses. Here is the very hedge in which our first swarm was hanging. The feeling, the intense excitement, comes back to me even now! Past the hills covered with ling and heather, past the farm out-buildings, the orchard, the dear old house and garden, past the old pine-tree:—

"I used to think its slender top was very near the sky."

And then the old thatched cottage of Mr. Bunn can be seen, with Bromsgrove steeple and the Malvern range in the distance. I greet old Mr. Bunn, and he tells me that a swarm came off and "knit" in the hedge, but afterwards went into a hole, high up in an elm close at hand. Mrs. Bunn, not meaning to be backward

in coming forward, came out and said: "Eche, Sir, and I got a new pan as I bought the Saturday was a wick afore, and d'aint I tang on 'em! They 'eared me up at Millad's, and next Mothers' Mating, when I sid her, her ses (it was three wicks afore Bromsgrove Fair), 'Whativer ware ver a doin' on, makin' such a rackit, t'other day, Mrs. Bunn?' But, lor, Sir, it warn't no use; they went straight for Mrs. Kirk's tree, and they'm there now."

This was bad news, but the next was better. "They must be full o' 'unny," said Mr. Bunn; "for I tried to wrench up the top, but it was full o' bees, and they was savage. They bin hangin' out, on and off, all summer, and, just for a fancy like, I counted a hundered and twenty, draggin' the honey in on their hind legs, every five minutes. Our Tum sid un, too, when I was away langscape gardening up at Dr. Underhill's."

I prepared for action. I borrowed two clean buckets and some pails, a cloth to lay over them, a large knife, young shoots off the fruit-trees to brush off the bees, a bowl of water to wash the hands; then I donned veil, tied trouser bottoms, and carefully charged and lit the smoker. I gingerly approached the hive, and with a chisel tried to prise up the roof. This was not an easy matter, for propolis of old standing is as tenacious as glue. However, by carefully working at it all round, it became loose, and with a great wrench I got it off, and laid it upside down on an empty hive. Then what a sight for mortal eyes! The roof, the lift, the body-box of fourteen frames were quite full. The luscious honey-combs, broken across by my wrench, were bleeding from every cell—tears from the flowers were raining down the face of the honey-comb!—and contingents of bees were already sweeping it into honey-sacs and taking it below. The combs were in places three inches thick, pearly-white and delicate, as they only can be when the bees build at their own sweet will. There were, perhaps, twelve combs, each twenty inches wide and thirteen or fourteen deep, sealed from top to bottom, every cell built scale by scale and filled in a few short months by these wondrous insects. Never shall I forget that sight or the getting of that honey-comb, for each comb had to be cut into separate slabs. Then I put the palm of my hand down the face of the warm comb, gently pushing aside the bees, so, spreading out the fingers (surely our hand was moulded for the work!), I was enabled to support the comb in my left hand, and with my right brush off the clinging bees. For two hours I worked at it—Mr., Mrs., and Tum Bunn had locked themselves down the cellar—putting the comb into the buckets as I cleared it of bees, covering with a cloth each time, for robbers were busy. The job was a difficult one, for the bees hung in festoons about the combs and hive-side; and when old Bunn had tried to force the roof off in the spring, he had shaken down the tender combs, and they were in a confused and twisted mass at the bottom, and were fastened to the quilts. Getting out the first comb was the worst part; it reminded me forcibly of my "skep" days. Occasionally, also, stray bees *would* get between the palm of my hand and the comb, so that when the weight of the latter came upon them, it pressed out their stings into the skin. But I don't blame them for that!

Well, the sticky job came to an end at last. Half-a-dozen bees had lost their stings in me, and a score more were drowned in their own honey—a sweet death. The fourteen frames in the body I left untouched, also the pool of honey on the quilts, being quite satisfied with two large buckets and two pails full of the richest honey-comb possible.

Now, when the deed is done, a feeling of sadness steals over me when I think of those thousands of toiling insects robbed unmercifully of the treasure they have garnered drop by drop, cell by cell, working before you and I are awake in a morning, and long after we have done for the day; working till their ragged wings refuse to support them, and they die, laden, it may be, out in the fields, clutching at the grass. And no one mourns for them, neither are they missed in the hive from whence they went into the summer air. As the honey "rains" against the side of whirling extractor, let the keeper of bees remember these things. Let him remember the myriads of insects that have toiled the live-long day for him, the countless journeys on wing that could not tire to countless flowers. Let him think of it, and let no more bees die of starvation in the dark wintry days.

The possession of these beautiful slabs of honey-comb made me almost long for the old "skep" days when I could have sold it; but now all those cells, delicate as the petal of a flower, had to be broken and strained. In doing this the marvellous power of bees to store such a quantity of heavy liquid in a comb of so fragile a nature becomes most apparent. I never cease to wonder and admire. Look at our present "comb foundation," made to imitate the midrib of a comb. The likeness is there, but yet how thick and clumsy! Give the bees an inch of this foundation in a frame, and you will find there is so much surplus wax that traces of it can be seen two or three inches in the white comb built below.

One more note and these lines must end, for the shadow on the dial is now made by the harvest moon, and there is a suspicious light in the eastern sky.

Early in April I had to move my apiary a hundred yards away. This was when they were in full swing collecting, but I kept them in three days, and then put a piece of glass before each entrance to baffle them, and so not many returned to the old spot. A large pan, in which Sphagnum moss, Saxifrage, Drosera, Pinguicula, and other moisture-loving plants were growing, was also moved with them. The bees had long used this as a convenient drinking-place, and when I let them out I was astonished to see them go straight to it as though nothing had happened.

It seems to me that a certain bee is told off

to fetch water, for I have seen the same bee come time after time to the self-same nook in the pan, hour after hour. Fifty or more will be on it at one time, and they certainly take away a quart of water in one day.

The ever-to-be-remembered season of 1893 has now reached its close. The bees have gathered famously from the late white clover and autumn flowers, and this, combined with the beautiful weather, has encouraged breeding, and hives are now strong in bees. *Bees* are the best of winter packing, and cork-dust next. The trays of the latter are on, winter passages cut, and we are already looking forward to another spring.—LORDSWOOD, M.W.B.K.A.

NOTES BY THE WAY.

[1664.] I trust that the recent effort of the British Bee-keepers' Association to introduce British honey to the notice of the Lord Mayor, and, through the introduction, to boom the industry by the aid of the public press, will be attended with success to our craft, and that an extended use will be made of honey as food. The extension of producers, without a corresponding increase of consumers, will only reduce the market value of our product.

Then we have an ever-increasing quantity of foreign honey to compete with. Even the advertisement of Messrs. Abbott points to the increased consignments of fairly good honey to this country; and if the foreigner can send palatable stuff, we shall have a keen competition, especially in extracted honey, and there are plenty of enterprising firms ready to handle the foreign honey and put it on the market forthwith, if there is a wider margin of profit on it than on the English. The English bee-keeper will have to face a closer competition in the near future than he has had in the past, when our pioneers in bee-craft get settled in the various countries of the world and extend their apiaries to large concerns, which, in an extended honey-flow, will produce large quantities.

Mr. Wells' report is good, again; even reckoning his nine double colonies as eighteen single colonies, the average is within a fraction of sixty-eight pounds per hive, and one pound of beeswax per hive. This seems a large return in wax, and I must congratulate Mr. Wells on his modest expenditure. Truly the old adage is right, that "it is not what a man earns or receives, but what he spends, that makes him rich."

It is gratifying to know that we, as bee-keepers (*vide* 1657, p. 487), are above suspicion, and I myself am inclined to endorse Mr. Birkett's contention; but, beyond the ranks of bee-keepers pure and simple—whose bees gather the nectar from the flowers of the field—are others, who are prepared to increase their profits by any legitimate or illegitimate means, as Mr. Birkett must know if he has read up the earlier volumes of *B.B.J.* of some ten years back. Therein he will find facts, proved by analysis, of the adulterated honey then on the market, and I have no doubt that the same nefarious practices exist to-day, the Food Adulteration Act notwithstanding.

Technical education is extending, and I have no doubt in a few years we shall have experimental apiaries run by the various County Councils (if not by the District Councils) on their model farms. This will extend modern bee-keeping and place it on a commercial basis alongside dairying and poultry farming. Then the antiquated straw skep will be thrust out of use, and the best systems will be thoroughly tried over a series of years by competent apiarians, and the most economical and profitable system or hive will receive the recommendation it deserves. The fact that apiculture is as necessary to horticulture and agriculture as rain and sunshine will be believed when the proof is supplied by experimentalists living in the midst of the counties, and the facts are taught in our technical schools of the near future.

Our aim must be to increase our output of honey from our apiaries without increasing our expenses. Mr. Wells has, during the past year or two, shown the success of his system, and his balance account shows a profit of over 3*l.* per hive with honey at 6*d.* per pound. This is satisfactory, especially when we consider the small outgo. I fear very few can pare their expenses out of pocket to such small dimensions comparatively with the income; but this is no reason why we shall not try to follow in his footsteps and make our secondary product, wax, pay the expenses. Would it be trenching on Mr. Wells' good nature to give us an inkling how he extracts his wax?—if he makes up the spare combs and cappings into wax as he goes along, or leaves all till the end of the season, and, if so, how he keeps out the wax-moth.—W. WOODLEY, *World's End, Beedon, Newbury.*

SUCCESSES AND FAILURES OF THE "WELLS" SYSTEM.

[1665.] I note in your correspondent's letter (1652, p. 478), when referring to the "Wells System," he declares that "roughly speaking the failures are about three to one success." Of course, so far as he had then *read*, but perhaps now that he has had a little more time to read, mark, and learn, he has come to a different conclusion. After reading what has appeared in your pages I make the successes out to be *five* to one failure!—and it must be remembered that the system is not fully appreciated or understood by every one yet; not that it has not been fully explained over and over again, but rather that some of your readers have sweet little notions of their own and strong opinions that such notions are at least *improvements* on other people's ways. Still, looking at what your correspondent's bees had to put up with, I do not consider his double hive a failure. Mr. Wells, at the Chester Show last year, was awarded a bronze medal for what? for a double hive? oh, dear, no! but for his *perforated wooden dummy,*

which, if used in a hive of sufficient capacity and provision made for two entrances, would make it a "Wells" hive, and proves it to be the aforesaid "perforated wooden dummy" which is the one thing above all others that goes to make a hive on Mr. Wells' system. Of course, I cannot object to people using any fancy article they like for this purpose, but don't—pray don't, my young friends—call it names, such as a "'Wells' hive all except the dummy-board."

I also note that friend Tustain, after a little pleasant wandering about, comes down upon me with a regular clincher when he makes me say, "Had '1593' adopted a properly made dummy his bees would not have been broodless;" but I would ask is it fair to quote part only of a sentence, and if our friend Mr. Tustain will *read* a little more attentively he will see I continued without any stop—not even a comma—"that is, of course, provided his queens are worth the keeping." On looking through the correspondence again, I am more than ever of opinion that what I said was right, especially as he tells us that the bees that gave him his successes this season are the progeny of the queens in question. I have known queens to wear themselves entirely out in one season, and no queen should be tolerated longer than the second season in the apiary of an advanced bee-keeper.

It is too late to remedy this now, friend Tustain, but make a notch on the hives containing them and note, and let us know the result in the good time coming, when winter's storms have passed away together with the nervous twitchings in the head-feathers of—THE HEATHEN.

METAL ENDS AND HANGING FRAMES.

1666.] When I have to open a hive to overhaul or examine the frames, I have some china or porcelain chair-nails handy, like the enclosed sample. They are little round nobs of a quarter of an inch in size, flat on the bottom, where a pin is. Upholsterers use them. I use them to prick into or on the top of a frame, which I want marking, to draw my attention to it. They enable me to find what I am looking for the next time the hive is inspected, be it for eggs, brood, a caged queen, or a queen-cell in the comb of such a frame. I find them very useful for this purpose. I introduce them to the readers of the *B. B. J.*

I do not take much interest in the discussions which have lately cropped up about the suggested wider metal ends for spacing frames in surplus chamber, and, for my own part, do not look upon it favourably; but for those who intend to make the alteration or suggested improvement, and do not take the advice of our Editors, given in "Useful Hints" on page 483, not to interfere with the present metal ends, which would surely be in the wrong direction, I would recommend the quarter-inch porcelain chair-nails, which, pricked into the wood, between the shoulders of each of the metal ends, would space the frames nicely apart for wider combs in surplus chambers without altering the same for use in the brood nest, the standard top bar, or shallow frames.

All metal ends are the same distance guides, and any kind of end could be placed further apart by these very handy china chair-nails, to be had of most ironmongers. They cost little, and are ready with the pin in to prick into the wood by the side of the metal ends.

I refer back to a former letter, in which I described the "Kaiser Hive," some of which I have in use. In these the frames hang upon four pins, two on the top and two at the bottom of a frame, which might be called "another method of hanging frames." They hang very securely, and nothing can disturb their proper position, being, of course, parallel to each other. If combs are wired they cannot get out of shape, no matter in what position they are placed with the purpose of turning the hive upside down. The frames are simply square, but the pins holding them, which pass through the sides of hives, do away with the metal ends. I have none in shallow frames, but it would do for them just as well. By withdrawing the two pins on the top, the frame lifts out, and when the hive, which is made to be manipulated also from below, is turned up, the two pins holding the lower part of the frames allows the frames to be taken out from the lower side of the hive when inspection is desired from that side. Either of the two pins liberates the frame for examination, and, being put back, the frame finds its proper place, reaching the pins when returned. There is one thing worth noticing: the frames are not propolised, the open space all around preventing this. The hive is an innovation, a toy, not much of an improvement on the common bar-frame hive. If the "new method of hanging frames" should be something better than my hives in use, which were illustrated and described in *Gravenhorst's Illustrated Bee Journal* some years ago, everybody who has the "Kaiser hive" will be pleased to have the details of the new hive, which your correspondent, "H. B." (1659, p. 488), is about to register, as stated, under the heading of "A New Method of Hanging Frames."—J. C. K., *Grove House, Southborough, Tunbridge Wells.*

[Referring to the use of "porcelain chair-nails" for spacing combs wider apart in surplus chambers, the fault lies in their not confining the bees, as the latter could pass out between the shoulders of each metal end parted by the porcelain nails. Our correspondent also misapprehends the "advice" we gave as to W. B. C. ends. We highly approve of the wider end for surplus chambers, but not of any alteration in width of top bar.—EDS.]

DOES BEE-KEEPING PAY?

[1667.] Thinking the following account might have some interest for readers of your valuable paper, I send it on:—I commenced the season

with five stocks, three of which were fairly strong, the other two only just pulled through the winter. Not having time to look to them as I wished, when fruit-trees were in bloom, the queens had not sufficent room to deposit eggs to increase the populations for the honey-flow later on, which may account for my not having so heavy a return in honey per stock as some I read of in the *B. B. J.* My five stocks gave me 249 pounds of honey, which, if sold at 8*d.* per pound, and the amount added to value of three stocks, which I made up from driven bees, with extra appliances, would amount to 10*l.* after paying all expenses. I am glad the Wells hive answers well in the hands of some; I may give it a trial next season.—M. Wood, *Swindon, December 9th,* 1893.

MY EXPERIENCE OF CARNIOLAN BEES.

[1668.] In my observations of Carniolans and hybrids I have found the pure Carniolans (and I think I have had pure queens from Frank Benton, Carniola, Austria), are very docile and can be handled like so many flies, and for those who desire to increase their stocks I say keep pure Carniolans, as they will raise a large apiary in a very short time. I have had five and six swarms from a single stock in one season; large swarms, five and six pounds in weight. I cannot say they are such excellent honey-gatherers, as I have found they require so much food to maintain the brood, and the brood nests at the close of the season are usually quite empty of honey. As to hybrids, I crossed my black queens with Carniolan drones and I cannot wish for better honey-gatherers, not vicious either, and they do not swarm half so much as the pure Carniolans. I have had some very heavy takes of honey, as also have my friends, from this strain of bees. If Carniolan queens get crossed with black drones you will want to be tough to stand their stings; they are vicious in the extreme, will pour out of the hive at the least noise, and woe betide you if you have not a veil on!

The season in my district has not been good for honey owing to the drought and no clover. The honey that I have taken has been very dark. Bees have gone in very strong for winter. Hoping for a better season for 1894, and a merry Christmas for all our bee-keepers.—A. Nicholls, *High Wycombe, Bucks.*

A YEAR'S BEE-WORK.

My "Wells" Hive.

[1669.] Having derived all my knowledge in bee-keeping from your valuable *Journal*, which I take weekly, and being greatly taken with the "Wells" hive, I made one last winter holding twenty frames, or nineteen with dummy, including the perforated division-board. On April 3rd this year, I stocked it with two stocks, one queen 1891 and the other 1892. Of course, you will consider this was not a favourable start, either as regards time or the age of the queens; but I made the best out of a bad start, as I could not unite these at the back end of last year, on account of having the hive to make in the winter. I might say this season stole a march over me, and the bees advanced so fast that I could not keep time with them, nor could I get foundation and frames made fast enough for them. This placed them at a great disadvantage in the brood nest, the same having to be used for honey instead of brood. The shallow frames I did not get on till May 13th, and between this date and June 19th, when they swarmed, they nearly completed two crates of shallow frames containing forty frames. I might say I tried with success Mr. Jeffrey's device given in your *Journal*, February 9th, 1893, page 51. The result was I returned the bees one on each side in the hive they swarmed from, taking away the combs holding queen-cells with hanging bees and placed these in separate hive to hatch their queens, to replace old worn-out queens this autumn; their place being filled with frames of foundation to the required number.

Not having yet got an extractor, I replaced the two sheets of queen-excluding zinc, and the two lifts containing the forty shallow frames, in the old position, to take their luck until I received my extractor from Mr. Meadows, which arrived on or about July 13th, and then started and extracted the lot, which yielded seventy-five pounds. This, no doubt, you will consider not a very favourable return, but taking into consideration the unfavourable start and not having my extractor in time to relieve the honey-flow and the bees having swarmed, it was not so bad for a novice.

The single hive, No. 4, was treated just the same as the "Wells" hive, which you will see did not give the same result at home, but pulled to the front when at the moors. This hive was a cast last year, consequently weak to commence with this spring.

After taking the two lifts from the "Wells" hive for extracting, I replaced the same with four crates of sections, placing in the centre of each crate one section drawn out, which on the return from the moors were the only sections completed. This greatly surprised me considering the crowded state of this hive, but the brood nest had perfect slabs of honey, each comb averaging about seven-and-a-half pounds. I might say I examined this hive when it returned from the moor, and caught both the queens in order to make two small nucleus stocks, to run through next season. I hope next season to work two "Wells" hives and intend making two more this winter.

I might say the hives worked for extracted honey had all their combs to work out from the foundation. In reference to the perforated division-board, I found it very free from the holes being propolised, only a few round the sides and

bottom being filled. Honey—especially my heather sections and clover ditto—I have found a good sale for; only in a few cases have I sold any honey at less than 1*s.* per pound. Average for 1891, two hives, sixteen pounds; average 1892, for three hives, five-and-a-half pounds. I enclose a table of my result of different hives, and the age of queens for this season, 1893.

	Worked for Extracted Honey only.	Worked Clover Sections only.	Worked all for Heather Sections.	Total lbs.
Wells hive	75	None	4	79
Single stock				
No. 1 ...	—	62	18	80
No. 4 ...	24	—	26	50
No. 6 ...	—	—	36	36
No. 7 ...	22	—	—	22
			Total ...	... 267

	Date when Swarmed.	Age of Queens.
Wells hive	June 19th	1891–92
Single stock		
No. 1	... Did not swarm	1892
No. 4	... June 26th	1892
No. 6	... June 6th	1891
No. 7	... Did not swarm	1890

I have not touched any of the brood combs, only taken them from the hives to return in the spring, of which I have twenty-four well-filled combs. Only good saleable sections given account of.—J. H. Horn, *Yorkshire.*

ARE VICIOUS BEES THE MOST PROFITABLE COLONIES TO KEEP?

[1670.] I am desirous of eliciting opinions on this question, being unable to arrive at any definite conclusion on the matter. While very much averse to vicious bees, at the same time I am anxious to get the best result possible, from whatever colony it may come. I have noticed frequently in my own apiary those stocks which showed most fire usually built up well and turned out well, especially so where there were young queens. On the other hand, I have had splendid results from quiet half-bred Ligurians. It is very unpleasant to work with savage bees, and yet in a mixed apiary one cannot help getting some such stocks.

Re "the widening of shallow frames," I tried in the year 1892 a simple plan of expanding the sides of the metal (W. B. C.) ends, each end about one-eighth of an inch, so as to give an extra quarter of an inch between combs. That year being a bad season with me, I could not tell then; but this year I put some of the same shallow combs on a moderately strong stock, and they turned out splendidly heavy, well-sealed slabs of combs. I should be very chary about making them wider; there are so many disadvantages. With the space mentioned there was no trouble to get the bees away, and being a quiet strain, it was a pleasure to handle the combs. They yielded my best honey this season.—E. Bunney, *Swansea.*

"QUOT HOMINES, TOT SENTENTIÆ."

Watever that Means.

[1671.] You hinvite diskushun, and I want to discus the matter of lektures on bees. Wats use of a hout an hout edikated man for a lekturer wat cant tawk as we ken understand. On page 475 there's a letter signed "W. B. Webster." How the dikins does he ekspekt a chap as earns 17*s.* to know wot the giberish at top of the letter means? If I find a hard word in your journal, I can get the Dikshunary down an find it, and mak summat out of it; but wen I ear a edicated chap (wi speks on, an a lot of cheap jewelry about his weskit) tawkin about allimentary bee-keepin, I doant know where I am. I put sum words down at a lektur here, an I turned em up to-day just to hev a luk at em wonce more. There's edifickationally, Hypabollar, Frangabillitie, Synyourage, vermikelation, perspikashus, Gustaytory, Hermetickalie, Dendrollogie, Ostrasise, Eksejetical, *and cetera.*

Now, this may be all rite when you are tawkin to edikated men, but when you say its for the benefit of laberers an small farmers we as to tak it wi a grane o' salt. An unless a chap comes wat can tell us is tale in werds we can understand, where is the eddicashun part to come in? I argew we doant want to know their edikation, we want to know ow to andle bees an get more honey. Mister Wells says he gets 130 lbs. a hive. I should think I had more un I could sell if I got 40 lbs. Proffit from 10 hives, 32*l.* 6*s.* 3*d.* Whew! a year's wages! I can cut the wings of queens an sort em out wi a spoon, but I'm a bit short yet, and I'm waitin for a chap to lekture that can tawk plain like. I doant agree wi a edikated man tryin to tawk to such as me wi'out him tawking so as we know wat he means.

Youl excuse me sending such a long letter. It tuk hours an hours to make it an rite it that could have been spent hive-makin. It's me first since Mr. Abbott had the care of the *B. B. J.*—B. B., *Northwich, Cheshire, December 8th.*

[Doubtless it would be well, in the case of such "awful examples" as the above, if the "skulemaster"—as our friend, "B. B.," would say—did a little preliminary skirmishing to prepare the way for lecturers who are supposed to have reached the standard required for teachers under the Technical Education Act. "B. B." should, however, remember that it is not every one who is so fastidious as himself with regard to the language he would have lecturers employ when imparting technical instruction. It might also be advisable for him to bear in mind that some County Councils may possibly desire that lecturers should go a little further in technical education than teaching their hearers "ow to andle bees an get more honey."—Eds.]

BEE-REMINISCENCES OF THE PAST.

(*Concluded from page* 490.)

[1672.] Many methods were advised for depriving bees of their honey. Store hives and glasses

were used capable of being removed bodily. Among them, divisional hives, with three brood frames or "sliders," each containing three combs, were also in vogue, the two side combs being cut away, and bees brushed off and left to return home to repair the loss. Sulphuring was, of course, largely practised; but light was dawning, and other methods were being adopted, such as fumigation with puff-balls (*Lycoperdon*, or great puff-ball), in those days called frog-cheese, mully-puff, punk-fist, &c. The apparatus in which these puffs were used was a box the size of the hive in use, with a "close bottom nailed to the edges, and without crevices. On one side a hole cut to receive the mouth of a quart tin pot, without a handle, from within one inch from the side and three inches above the bottom, such tin pot to be punched round the side as full of holes as possible within an inch of the top (except about two inches, which have but few), as also in its bottom." This pot was nailed on to the circular opening. "Another aperture is cut on the right of that for the pot to receive a pane of glass, and so have a window three or four inches square in the back for the purpose of vision." The puffs were lighted and placed in the pot, and the hive was placed on the top of the box, "and in about twenty minutes the bees will all be stupefied and senseless, and fall from their combs into the fume box, and will recover again in about the same time, on the admission of fresh air, without receiving the least injury, as the stupefying of bees is in no wise prejudicial to them."

A second plan of taking the honey was by supering, much in the same way as is practised now; and a third method was by "driving and bumping." To perform this latter operation, it was advised that the bees should be shaken out into a tub of cold water, and, as soon as they were senseless, to strain them on to muslin, and place them under a new hive on the old position to let them recover, "*which they always did without prejudicial effect.*"

One lady bee-keeper of this period writes that, after bumping a hive of bees into a tub of water one cold day in March, she strained them and placed them in a glass hive furnished with comb and honey, when the bees recovered and came over the combs as usual, and adds:—"I was greatly surprised on examining them shortly afterwards to find so few bees on the combs, only a few hundreds, and many thousands on the bottom of the hive exhausted and dying and many more while I was looking at them fell from the combs"—and joined the majority. After careful consideration she ascribed their deaths "*to the honey in the combs not being fit food for the bees!*"

Referring to the condition of bees in winter, it was considered that they became quite torpid and insensible in cold weather, and that they could bear a greater degree of cold than was commonly imagined to be favourable to them, one author declaring that bees became "perfectly frozen in severe weather," which prevented them from putrefying, and they remained petrified until the return of spring, when they "woke up"—arguing that loss was occasioned by the weather not being severe enough to freeze them, so that they only "got numbed and chilled," and that "their juices being in a liquid state soon putrefy." Regarding diseases, dysentery seems to have been best known, and many cures were published; one advising covering bees with ashes of the fig-tree; another to give them rosemary and honey with water; and referring to the cause of the complaint, one writer ascribes it to the bees "eating pure honey, which does not form substantial food enough unless mixed with pollen."

For stings, the advice given was to drink a cup of good beer and to wash the hands therein, which would prove a good defence; or go to them with a bunch of sweet herbs and fan the face therewith, and if the bees still insisted on stinging "thrust the face and head into the first bush or into the herbs and retire *gracefully!*" The modern bee-keeper generally retires in a hurry! Again, "If thou wilt find favour with the bees that they sting thee not, thou must avoid such things as offend them; thou must not be unchaste or uncleanly, for impurity and sluttishness they utterly abhor; thou must not go among them smelling of strong odours, or having a bad breath caused either by eating leeks, onions, garlic, or the like, the noisomeness whereof is cured by a cup of good beer." I have, alas! known bee-keepers who would have responded to this last advice by saying, "Good old times!" but this is a digression. "Though must not be given to surfeiting, but softly move among them; thou must be no stranger to them, so that they love thee and know thee from all others." As to enemies, birds were considered among the greatest of their foes, and bee-keepers were advised to hire boys to rob their nest, and traps baited with dead bees were considered most efficient.

Their sense of sight was supposed to be very weak, especially when the bees first came out of the hive, which was considered to be proved by them "rubbing their heads with their forelegs, before taking flight, to get the dust out of their eyes" (a sort of eye-opener). One author says that women should not meddle with bees, as it was not a suitable occupation "at any rate not without a bee-dress, and having on a man's coat," and the author in question whispers: "I had almost said breeches also."

The advantages of uniting weak and queenless stocks were fully appreciated by the bee-keepers of whom I write. Observatory hives were also in vogue, and another advance was made by one "Schirach," which was called his method of increase by artificial swarming. This led to much discussion and warm disputes on the Continent. One English writer declared that "after eight years of experiments according to Schirach's instructions with scrupulous care and exactness and with improved and more suitable apparatus" he had not "got *a single result* in confirmation of his (Schirach's) methods;" but Schirach has beyond question proved to be right

and subsequently his method led to the bursting of the bubble of queens being raised from special eggs. At this, bee-keepers of the period marvelled, it being well known that "*queens took five times exactly as long to lay Royal eggs as they took to lay common ones.*"

I should like to add much more to these reminiscences of the past, but I am afraid I have already encroached too much upon your valuable space; but, in conclusion, I have no doubt many of the above statements and theories, judged by the present state of enlightenment, will seem queer reading; but let readers pause and consider what may be the opinion of bee-keepers a hundred years hence as to our present knowledge and manner of bee-keeping.

We must not be too sure that perfection has been reached in our art. We are advancing no doubt, but still we are far from "finality." Do we fully understand the physiology of our little friend, the bee? I think not. Are we sure our appliances are in every way the most suitable, and that our modes of manipulating are all that can be desired? I should say certainly not. And again, do we fully appreciate the many instincts of the Creator's lowly creatures? I am sure not. Therefore let me warn bee-keepers not to set themselves, as exponents of the craft, on too high a pedestal of perfection, or the fall may be great. No doubt very many of your readers are doing their best to arrive at this happy state, and to throw light upon the many mysteries which still surround the art and science of bee-keeping, and whilst I heartily wish them and their bees every prosperity in the coming year, I trust they will bear in mind what may be thought of their doings a century hence, and that (to rake up an old Latin axiom) *Parvum parva decent*, or "Little things become the humble man" even though he be—THE HEATHEN.

THE LANGDON NON-SWARMER.

A SUGGESTED IMPROVEMENT.

I have wanted to report about the Langdon non-swarmer for some time, but there seem to be many reporting failures. They have been an entire success with me, and I think they can be with all practical bee-keepers. I don't think I make mine quite like Mr. Langdon's. I don't have to bore any hole in my hives—the Dovetailed. The bees should be turned from one hive to the other every four or five days during swarming-time. One needs to be very careful to get them adjusted bee-tight. I never had any trouble with bees destroying brood except eggs. This will cause the colonies to be a little weak for the fall flow, if there is any. I had trouble when I tried to re-queen these colonies. Bees enough would get back through the cone so that they would ball the queen. To remedy this I closed the cone, then all went well.

Here is the only plan by which I can procure honey here: I place a case of half-depth frames on hives for extracted honey without any queen-excluder between. They will soon go to work in these, and the queen will soon commence laying. As soon as they are nearly filled I raise them (be sure to run the queen below), put on an excluder, with a case of sections between this and the upper case, and you will get honey, if there is any to be had. I have secured 30 pounds extracted honey and 24 pounds comb honey from colonies worked this way, when others have not made over 15 to 20 pounds per colony, comb. Now, my colonies worked with non-swarmers on have stored two pairs of 70 pounds each, comb honey; two pairs of 60 pounds each, extracted honey.

In the way of feeding back I have secured these results: I have fed one colony 70 pounds extracted, and received 60 pounds comb; I also fed one colony 60 pounds extracted, and received 50 pounds comb.—C. S. NEVINS, *Wagstaff, Kan.*

[We sent the above to Mr. Langdon, who replies:—]

My experience during the past season shows that my circular is wrong. The slide should be changed once in *four* days instead of *seven*. It also says (which friend Nevins likely did not see) that, if a rim were nailed on the back of the device, no hole would be needed in the hive. I shall make them all so the coming season.

I did not find that the bees were light for the fall flow, though I have had them heavier. One thing is sure—if they are lighter than they would otherwise be, there is not a great army of bees to board during the interval between basswood and golden-rod. The effect is the same as though the queen had been caged, and there is a saving in that. The plan of ventilation given by friend N. is along the line that I have adopted for use next season.

Mr. Nevins' experience is another straw to prove that running two working forces together cannot be excelled or equalled for getting bees to work in the supers, especially if there is a short crop.

I claim as strongly as ever, notwithstanding the adverse reports that have been given against the non-swarmer, that, if the bees are given proper room in the supers, with good ventilation, so as to be *comfortable*, they can be kept from swarming with an increased yield of honey by the use of my device. My success with them on my house-apiary is better proof on this point than most of these reports have been that they will not work. Something was at fault that could have been remedied.—H. P. LANGDON.—*From "Gleanings," Am.*

Notices to Correspondents and Inquirers.

Several queries await replies, but as the matters are not urgent, we defer them till next week.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 600. Vol. XXI. N.S. 208.] DECEMBER 21, 1893. [*Published Weekly.*

Editorial, Notices, &c.

DISTANCE GUIDES FOR FRAMES.

THE W. C. B. END.

We hoped to have been spared taking up further space in discussing the (no doubt) well-meant suggestions which have been made as to improving the "W. B. C." end. A correspondent however, under the initials "H. C. J.," on p. 505, writes in such a way as compels a reply, which we will endeavour to make conclusive, in order to render further discussion on our part unnecessary.

We seem to have quite unintentionally roused the ire of "H. C. J." by insisting that a spur is not needed in the W. B. C. end; but, while running the same risk, we are compelled to repeat our insistence. Moreover, we firmly believe that nineteen of every twenty who use these ends will agree with us. It is also both unjust and absurd to charge us with objecting to any one adapting the "end" to meet the case of incorrectly made or of makeshift hives, and it adds, we suppose, unintentional testimony to the value of the W. B. C. end that it can be so adapted. Why should we object to "H. C. J." taking his shears and pliers and cutting and bending "ends" which are his own by purchase? Our sympathy rather goes out to him in thinking of the hives he uses, which make this task necessary. Our objections to a spur are specified on p. 483, and may be referred to by any one interested. But "H. C. J." enlists the support of "A Lancashire Novice," and also of our esteemed correspondent, Mr. W. Woodley, in his contention that a "spur" is needed in the W. B. C. end. Regarding the evidence of the former we have only to state our preference for being judged by the communication referred to (1630, p. 457) rather than by the extracts quoted by "H. C. J.," who sees more argument in his favour than we can discover in the original. The "experience" of Mr. Woodley is also made the most of in quoting him, but Mr. Woodley makes no pretence to having any experience at all of W. B. C. ends. He distinctly states that "he uses only Abbott's wide-shouldered frames," and it was in view of the fact of these very frames requiring an accurately measured rebate on the under-side of the top bar—which said "rebate" regulates the distance between the frame and the hive side—that brought forth our allusion to it on p. 483.

We believed that Mr. Woodley would accept the remarks there made as a reply to his observations regarding the absence of a spur, but in case we were not sufficiently definite let us say that correct measurement in the distance between ends of top bars, in frames where W. B. C. ends are used, is exactly analogous to correct measurement in the rebate on the underside of top bars in the broad-shouldered frame he uses. The *rebate* regulates the distance in one case, the outside of hive does it in the other, and accuracy in both is indispensable. What we do admit is that hives made expressly to take broad-shouldered frames are not suited for frames with spur-less metal ends.

We may also be pardoned for, incidentally, naming the advantage we possess in the matter of experience over our friend Mr. Woodley, because of our having had, among the forty hives of which our apiary, some years ago, consisted, no less than ten hives fitted with broad-shouldered frames similar to those he now uses, and these we worked for several years.

We desire to put as charitable a construction as possible on the strongly-worded letter of our correspondent, with which we are dealing, and in doing so, the conclusion forces itself on us that he has not had the

opportunity of inspecting hives of the most modern type, such as are staged at shows nowadays; otherwise he would not have penned the lines he italicises in the last par. of his letter, wherein—referring to shallow-frame surplus boxes—it is stated that "A distancer of some kind is indispensable, *as there are no hive sides to regulate distances here.*" With a not limited experience we have never seen a shallow-frame surplus box with metal ends of the kind referred to staged at any show, or sent out by any well-known dealer, in which the spacing was not regulated precisely as in the brood chamber below, from which it only differs in being three inches less in depth.

Let us here, however, express the pleasure it affords us to find that our correspondent can so readily adapt the W. B. C. end, as now made, to his own purpose by adding to it an easily formed spur, and we assure him that we have no desire other than that bee-keepers similarly placed to himself should take the advice offered in his communication on p. 506.

In conclusion, it is to be regretted that "H. C. J." should see fit to go out of his way to make a gratuitous insinuation as to our having a pecuniary interest in the metal end to which our initials are appended, because we think that few readers of this *Journal* are unaware of the fact that its Editors are free from pecuniary interest in bee-appliances of any kind whatever. Our only interest—beyond that of the general good of the pursuit—begins and ends with the prosperity of the journals it is our honour to conduct, and the help we ask of readers is limited to expressing a hope that they will render us generous assistance in adding to the circulation of the papers by each endeavouring to secure for us a new subscriber. This sort of pecuniary help we will gladly welcome.

BRITISH COMMISSION FOR THE INTERNATIONAL EXHIBITION IN VIENNA, 1894.

In response to the request of the British Commissioners, we print the following communication:—

"In order to protect the interests of the British exhibitors at the International Exhibition to be held next year in Vienna in connexion with Economical Food, Army Supplies, Protection of Life, Transport, and Sport, an influential committee has been formed which held its first meeting on Tuesday last week at the Imperial and Royal Austro-Hungarian Consulate-General, under the presidency of M. Francis Stockinger, the Austro-Hungarian Consul-General.

"Intending exhibitors can obtain all further particulars on application to 'The British Commissioners for the International Exhibition in Vienna,' c/o the Imperial and Royal Austro-Hungarian Consulate-General, 11 Queen Victoria Street, E.C."

NORTHUMBERLAND AND DURHAM BEE-KEEPERS' ASSOCIATION.

Proposed Visit of Mr. G. Wells.

Referring to the announcement made in our issue of December 7th (page 490), the Hon. Sec. of the N. and D. B.K.A. writes:—

"Owing to a pressing business engagement, Mr. Wells was not able to come to the north in order to explain his system to local bee-keepers as arranged. A great deal of interest was taken in the proposed visit, and I have received numerous expressions of regret at not being afforded the opportunity of hearing him. In many instances bee-keepers had made arrangements to travel considerable distances to the meetings.

"It is hoped, however, that Mr. Wells will be in a position to fulfil the engagement at an early date."

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of November, 1893, was 2332*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

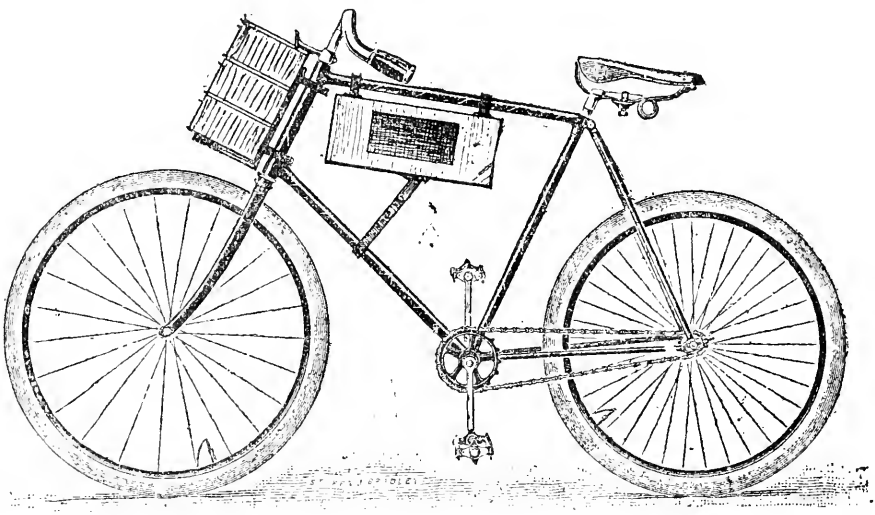
**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

CARRYING BEES ON BICYCLES.

[1673.] I read with much amusement the letter (1616, p. 439) in your issue of the 2nd ult., and, had not my time been so fully occupied, would have written you before to give your correspondent a method whereby he might carry the bees as safely and with considerably more

comfort to himself; and now Mr. Webster has, in a late issue (1649, p. 474), given us his method, which is certainly superior to the other, but still entails the time and trouble of shaking the bees from skep to pail, and pail into a miniature sack. This necessitates an assistant to hold the sack whilst the bees are being poured in, and I am afraid, in many cases, the bees would "sack" the assistant instead. Also, I cannot quite make out how twenty-eight inches in circumference fits round six inches square, as the four sides only make twenty-four inches, and the size of the holes is given as $\frac{5}{32}$ (is not this a printer's error for $\frac{3}{32}$?). A stout wire ring with stiff tinned gauze soldered on would almost seem to be preferable.

I have several times transported boxes of driven bees on a bicycle, and although I cannot carry so many separate lots as by Mr. Webster's method, I think it will meet the requirements of many bee-keepers, as two or three lots may be joined together in the boxes used to carry them. First of all, I obtained a "luggage carrier," which is securely fastened to the front of the bicycle. This can be obtained at any bicycle *depôt*, and is very useful for many purposes, such as carrying a camera, parcel, or bag. This carrier is provided with straps. Next I obtained three "Hudson's dry soap" boxes, and cut a piece out of each side six inches by three, filling in the hole with a piece of wire gauze securely tacked inside; a small staple in the lid, and another underneath it about an inch down the box, and a piece of string tied to one of them for fastening the lid, complete the apparatus. These three boxes are then placed one on top of the other on the carrier, and firmly strapped on. The bees may be either shaken into or run into the boxes if the windows are temporarily darkened with a piece of brown paper. I enclose a sketch which will make my meaning clear; and if it is an open diamond-frame bicycle, a fourth box can be carried under the top bar, the same as a valise, by means of three small straps attached to it. The propulsion of the machine forces a continuous current of air through the openings in the boxes, thus keeping the bees cool; and on arriving home a feeder may be stood on one of the pieces of gauze, if the box is stood up on its edge, and the bees kept safely for a day or two if required before hiving them. The boxes have a further advantage over the little sacks—that if it is wet on returning the bees take no harm; but, on the other hand, the bicyclist doesn't look half



so "fetching." The extra weight in front of the machine makes it balance better, and the rider is relieved from any personal encumbrance. —F. J. CRIBB, *Morton, Gainsborough.*

IMPROVING THE "W. B. C." END.

[1674.] My suggestion anent cutting and bending a spur on the W. B. C. end (1608, p. 435), to keep a proper bee-way between frames and hives, has aroused a little attention. "Lancashire Novice" (1630, p. 457), (I do not know him) very ably supported my suggestion, and gave some capital reasons for the use of the projection. He also entirely answered your "withering foot-note" at the close of my letter, wherein you referred to your "parental interest" in the W. B. C. end and depreciated my plan on account of its preventing close spacing of frames to prevent drone brood. He said, "It could still be accomplished" (spacing to one-and-a-quarter inches) "by removing alternate ends and adjusting the frames temporarily between hive sides without any distance-keeper for this adjustment." This close spacing of frames to prevent drone comb is well spoken of by "Lancashire Novice" as "not a frequent operation." If I want to prevent drone comb, I do what you, Messrs. Editors, always advise.

I use full sheets of brood foundation. Tell me how many bee-keepers—aye, even though they use the W. B. C. end—space their combs one inch and a quarter apart to prevent drone comb?

The next to notice the suggestion was Mr. W. Woodley, a bee-man, I take it, of no mean experience (1650, p. 476.) He said, "W. B. C. ends as originally designed, have no side distance projections—why, I have never been able to understand." Then he pictures the tyro in bee-keeping returning to the pattern hive his grandfather used, because he is disgusted with having one side of his frames fast to the hive with propolis and the other side filled up with comb for want of a distance-keeper on his metal ends. You have drawn a true picture, Mr. Woodley, of what must have happened to numbers. The question is next referred to in "Useful Hints" of December 7th. Now, this column is always eagerly scanned by me, as by hundreds more, and I have profited greatly by what I have gathered from it; but instead of giving a useful hint on December 7th, the writer in my opinion, only puts his foot upon one. When I buy a gross of W. B. C. ends, they become my property to use as I please. The first thing I do is to take my shears and pliers and cut and bend my useful projection to all of them, and, as a practical man, it doesn't concern me a bit that Mr. "W. B. C." would rather not have his initials upon it, however much (I quote "Useful Hints") "the writer would feel constrained to request that some other appellation be given to any such improvement (?) as would include a spur, rather than the initials of *his* name." If the preceding sentence means that Mr. "W. B. C." having still a proprietary right in the end, would rather not have it turned out in the way I suggest, I can understand that the inventor has a right to do what he will with his own; but why object to the purchaser improving it if he please? My advice to brother bee-men is, if you use the W. B. C. end in hives, standard size in brood nest, but more than seventeen inches wide from side to side (and there are many such hives) cut and bend your spur on the ends. The small amount of propolis on the spur, if any (for I never find mine stuck tight), is as nothing to obtaining a proper bee-space each side the frames.

I need not dwell on the W. B. C. for shallow-frame boxes. "Lancashire Novice" agrees with me that a distancer of some kind is indispensable—*as there are no hive sides to regulate distance here;* and what could be better than the suggested spur?—H. C. J., *Hornington Cross, Burton-on-Trent.*

FOREIGN HONEY.

[1675.] I have been much interested lately in perusing an article in a weekly paper dealing with the report of the Select Committee on the "Marking of Foreign Meat," as detailed in a Parliamentary Blue Book lately issued. The investigations of the Select Committee referred to have led to the exposure of wholesale frauds in the selling of foreign meat, and it is recommended that all dealers in that produce should be registered as such, that the sale of foreign meat should be notified on every shop selling it, and that properly qualified meat inspectors should go round and see that the law is being enforced. If this recommendation becomes law, as I hope it will, I would ask, Why should we bee-keepers be left out in the cold? Most of our county Associations will shortly be holding their annual meetings, and it has struck me that if some kind of resolution were passed in favour of having all foreign honey sold in this country, labelled as such the help of county members might be enlisted in the way of having the matter brought before the House of Commons, and so doing some good service in that way, not only to bee-keepers, but to the public at large.

Now is the time for it to be done, if at all, because the B.B.K.A. has within the last few weeks so well brought the British honey question to public notice, and if the British bee-keeper is to have a chance of disposing of his produce, it should be distinctly separated from the foreign stuff. I believe very few people know that foreign honey is imported into this country in such quantities as is the case—some knowing nothing about it at all—and they are thus deceived in what they buy.—J. PEARMAN, *Derby.*

ENGLISH *V.* FOREIGN HONEY.

[1676.] Referring to your article on "Foreign Competition," and to Mr. Woodley's letter on the same subject, the two following experiences go to show that all wise purchasers of honey for the table will stick to buying only English honey, and, when they ask for it, will see that they get it. A few weeks ago a chemist told me that a traveller had called on him and offered him some low-priced honey. He described it as "Californian." The chemist asked how it was that he could offer it at so low a price, when the traveller stated that, to tell the truth, *it was not honey*, but that the article was glucose, which he could have flavoured with "almond" or any other blossom.

Another chemist told me that it was not necessary for him to keep English honey, as he had bought some good Chilian honey, which answered every purpose. I asked him to show it me. He thereupon took a bottle of honey, which was offered for sale, from a prominent position on his counter, and put it into my hand to show that what he had stated about it was correct. It had on it a printed label—"Pure English Honey." I at once charged him with misrepresentation; but he made light of it, and put it back into its place. The next time I saw him, he said that since he saw me he had got some English honey, though he did not show it to me.

I understand that the best chemists use only English honey, as the foreign honey is so liable to adulteration, and is not to be compared in flavour with our British honeys, and that it does not work up so well with their preparations.—A LOVER OF GOOD HONEY, *December 16th*, 1893.

FOREIGN HONEY—BEES AND LIME-TREES.

[1677.] Your correspondent, "B. B." (1671, p. 500), wants some enlightenment as to the meaning of the foreign words used at the head of an article in your pages; but I think that for the enlightenment of such as "B. B." and myself, it would be more to the point if you could inform us in good plain English what is the meaning of that little packet of foreign honey (4800 pounds) advertised in the *B. J.* being offered to us bee-keepers. Again: A correspondent (1663, p. 495) writes of bees gathering from the bloom of lime-trees. If that is so, why do not bees in this neighbourhood gather honey from these trees? I have many times observed the limes when in full bloom, and have seen them alive with blow-flies, humble bees, and a flat bee of some sort, in shape like a drone, but never a hive-bee have I seen on them. Can it be that the locality is so good that there is forage about which the bees prefer? —J. DEAN, *Strood, Kent, December 16th.*

[Our correspondent's first inquiry is, we suppose, "writ sarkastick," as Artemus Ward would say. For the second, we cannot understand his being unable to observe hive-bees on the bloom of lime-trees. Our own bees work in the same county of Kent, and we have several times during this last season seen them working on the lime-bloom in thousands. The lime is certainly a very uncertain source of honey supply, because it is only under favourable atmospheric conditions that the blossom secretes nectar, but when these conditions are present bees gather very large quantities of honey from these trees. —EDS.]

EXTRACTING WAX.

[1678.] Not having a wax-extractor, I extracted about three pounds of wax by adopting Mr. Percy Leigh's plan, recently given in your *B. J.* (1537). I fancy it was rather a muddling affair, but no doubt a deal to do with it was on the part of the operator, and as there are one or two points want clearing up, hence the reason of my paper on the subject. First, will Mr. Leigh please say for what reason he allows the contents of the jar to cool, and remelt again before straining off the wax into moulds? Could not the wax be strained straight off when first removed from the oven instead of allowing it to cool, as then you have only to melt it a second time to strain it? Second, I would suggest, to save time and trouble, that a square tin vessel be made for the purpose, say, one foot square by one foot deep, or whatever size would be most convenient. Don't you think this would be much better than using one or more small jars? Third, and most important part is, the getting two-thirds more wax from the combs, as stated by Mr. Leigh, in extracting by his method; and as two-thirds is such a lump to get over and above what one would get in the ordinary way of extracting by wax-extractor or otherwise, I should be glad to see a little discussion on the subject in the *B.J.*; or perhaps some of our prominent bee-keepers would not mind stating their experience in this way, seeing that English wax is becoming so scarce and valuable. Evidently two-thirds more is a great consideration, providing we are able to get it. There appears to be room yet for more experiments in wax-extracting, Messrs. Editors, before we shall be able to say we have reached perfection in that direction. Being a novice in the wax line, could any of your readers inform me the most convenient size to put up cakes of wax for retailing?—BUZZING.

BEES IN HAMPSHIRE.

[1679.] Not seeing any report from this part of Hants, I send a word or two on what my bees have done for me in 1893. First, my Carniolans have carried the palm this year, though I have always favoured our native bees. I must, however, give the foreigners first place in 1893. One hive wintered on eight frames, which I increased to sixteen during the early summer, and gave me a box of twelve shallow frames and a crate of twenty-one sections, which they finished off well, the weight of the whole being: Sections, 21 pounds; extracted, 56 pounds — total, 77 pounds. No. 2 gave 42 sections and 30 pounds extracted—total, 72 pounds.

Now I think that the two lots quite equalled any double hive in the market, besides being not so cumbersome. I still hold that a double hive is two colonies, and the produce should be counted as off two hives. My natives contributed 45 pounds each on the average. I have not kept a profit and loss account, but the balance to the good is all I could wish. I have sold no honey under 10*d.*, but most at 1*s.* per pound; extracted sections, 1*s.* each. I suppose our Hampshire and Isle of Wight B.K.A. had not time to report Show at Southampton, or did I fail to see it? I did not think it a bad Show. I was very glad to see our friend Woodley was well to the front. Winchester and district has done well this year. My apiary consists of thirty hives, all well provided for, each stock having about 24 pounds of stores left. I cannot see the advantage, in seasons like that of 1893, taking honey and feeding with sugar if it can be avoided; in bad seasons we have to work differently. *Re* broad shallow frames: I have used them for some years. I make them the size of three one-pound sections, seven to a crate,

and have had them perfect slabs of honey, one hive filling fourteen combs perfectly. I use dividers as for sections. I had no native swarms, and only one or two Carniolans; swarms were very scarce in this district. I think bees in this part have done well, and hope 1894 may prove as good a season. No foul brood here, I am pleased to say. I might add I bought my Carniolans off friend Overton of Crawley, and they have done well, as you see by my report. Wasps were very numerous; I destroyed eleven nests close to home, besides numbers further away. A friend of mine took about 150 pounds of honey from under the leads at the residence of J. W. Baxendale, Esq., Hursley Park—a very good "take," I think. I have myself taken one lot from a barn, not much honey, but a good lot of bees, which are doing well. The season of 1893 seemed to have been good for Carniolans, but other seasons have been more suited for our native bees. I cannot but stick to the latter, as they are more suited to our changeable climate, so I shall not conclude that foreigners are best. Wishing well to all my fellow bee-keepers.—F. Mower, *Working Gardener, Winchester.*

BEE-KEEPING IN SUSSEX.

[1680.] This has been a very successful year with me, so far as a honey harvest is concerned. I have only had one swarm, but my bees produced an average of eighty-three well-filled sections for each hive, calculating a "Wells" hive as being equivalent to two hives. My best single hive produced 107 sections, and the "Wells" hive 167 sections, so that the single hive proportionately beat the double hive; but I think that the excluder zinc was somewhat of an impediment to the former; I only used it on that hive. My situation is by no means very favourable for honey-gathering, so that I think that the foregoing result is the more satisfactory. I may mention that I have left the brood nests almost untouched for the winter, amply supplied with sealed stores, and so full of bees that I found it almost impossible to reduce the number of frames. Each hive has an inner and an outer case, the intermediate space being filled with cork-dust.—A Sussex Rector.

BEES FRATERNISING.

[1681.] Seeing so much about the "Wells" hive in the *B.B.J.* has brought to my recollection the friendliness of the bees of two hives that I had in a bee-house about eight years ago. They were on a shelf, side by side, about eighteen inches apart. The bees were daily passing across the front of the house from one hive to the other, and entering either hive, for several weeks. Both hives did very well, and towards the close of the season they ceased to visit each other; there was not the least sign of fighting. I wonder if any of your readers ever noticed anything similar with their bees? At the time it seemed very unnatural to me.—M. H. Tilley, *Dorchester.*

THE RINGROSE COMPETITION.

[1682.] Perhaps some of your readers would like to know the final result of the "Ringrose" Competition at Northampton in August last:—After paying all expenses, Mr. Hefford has handed over to Mrs. Ringrose the sum of 2*l.* 15*s.*, which sum would have been much larger but for many of the sections arriving broken, so many of them being packed flat. I beg to suggest that those who desire to send sections by post should adopt Mr. W. Woodley's plan, which is to glaze the section and to make it up into a rather bulky parcel with paper shavings, hay, &c., so that it can travel upright and stand a bit of a jar in the hands of Post Office officials. —J. R. Truss, *Ufford Heath, Stamford.*

LANCASHIRE AND CHESHIRE B.K.A.

Prize for the Best-kept Apiary.

Out of six competitors for the silver medal kindly offered by Mr. George Roberts, of Broadgreen, "For the Best-kept Apiary," the Judges, Messrs. Austey and Rogers, have awarded the prize to Mr. W. H. Forde, of West Kirby, Cheshire, whose apiary, they report, is a model of neatness and order.

Echoes from the Hives.

Canterbury, December 12th, 1893.—It may interest you to hear that my bees are flying on all warmish days, last week and the week before bringing in large loads of yellow pollen, and yesterday, the 11th, loads about the size of a pin's head. I write this as I understand from the *Journal* that it is unusual.—Ned Swain.

Queries and Replies.

[921.] *Mainly about Queen-cells.*—On 25th July last I was examining some bees for a tradesman in the village, one stock in a skep looking more like a wasp's nest than a bee-hive, so far as appearance went. On lifting up the skep, the only bees I found were five drones. The combs were built all over the top, and came about half-way down the skep, the upper parts of combs containing sealed honey, about five pounds. I could see no difference between this honey and that taken from other stocks at the same time. In the middle of the centre comb I found about two inches of drone comb, containing dead drone brood, almost perfect, and a capped queen-cell, containing matter of a greyish-brown colour. I was told this was a

swarm placed in the skeps last year, 1892. 1. I should like your opinion of this. On looking over a stock of bees in a frame hive on 7th October, before packing up for winter, I found several queen-cells on one frame, and on another I found a queen-cell with one side of the cap hanging just as it would be when the queen hatched out from it. There was no brood. I finished feeding first week in September. I had some difficulty in finding queen, and when I did see her she flew off the comb, but at once went in again at the entrance. There was no excitement of the bees, and when covered up they were as quiet as before. I have had no drones flying since first week in July. 2. How long a time elapses after queen hatches before the cap is cut down, or do you think this is a virgin queen? I drove a stock of bees in straw skep, removing the queen. Saw one queen-cell in middle. Finding a quantity of pollen and a little brood, I made up two frames and returned it to the bees, uniting them with another stock. Next day I found they had made another queen-cell. 3. Do bees in autumn make preparation for next season's swarming by building queen-cells? 4. If I run a line of melted beeswax down the centre of top bar of frames, will the bees accept it as a guide, or must it be a guide of comb foundation? 5. Are hanging section frames (three sections) as suitable as other ways for section honey? 6. Is there any advantage in using whole sheets of foundation thicker at the top than the bottom? —R. C. S., *Stonehouse, December 14th.*

Reply.—1. We are utterly at a loss to understand the stock in skep being found in the condition described, if it really was a swarm hived the previous year as stated. To have only built the combs "half way down the skep" after being hived in it over a year, and found in July occupied by "five drones," is beyond our powers of explaining with any accuracy. 2. The loose capping or flap of a queen-cell usually disappears a few hours after the queen has hatched out. With the cap found as described, we should think it likely that the queen had only hatched a short time before she was seen. Time only will prove whether she has been fertilised or not. 3. No. 4. A strip of foundation, half an inch or so wide, is a far better guide than a line of melted wax. 5. Yes. 6. The makers of this particular foundation claim for it several advantages over the ordinary sort. We shall be glad to have the experiences of those who have used it.

[922.] *Bees Short of Stores.*—1. I began to keep bees in October, and bought a hive. When I got it, the bees covered the ten frames, and the man I bought it of told me they had enough food for winter; now they do not nearly cover all the frames—there must be four without any bees on, and they do not seem to have sufficient stores to last over winter. Should I put some candy over the frames on the first mild day? 2. Should I disturb the bees by making two dummies and putting them in, or would it be better to let them be as they are? —W. H. J., *Norwich.*

Reply.—1. Give a good-sized cake of candy, three or four pounds in weight, to make sure the bees will not suffer from want. 2. No harm will follow the insertion of dummies as proposed.

[923.] *Honey Recipes and Bee-escapes.* — 1. Could you not get some readers of the *B.J.* to kindly send in one or two good recipes for using honey in cooking—especially for pastry or refreshing drinks? 2. Then, I am rather dull in understanding the bee-escapes described in your columns. I should like to try them next year, but cannot understand how they are worked below crates of, say, eighteen or twenty-one sections.—J. D., *Strood.*

Reply.—1. Many recipes for using honey have appeared in our pages from time to time, quite a collection of recipes appearing in the *B. J.* for February 11th of last year. 2. In making bee-escapes, the escape board is made of the same dimensions as the section rack or surplus chamber to be cleared, and has a bee-space provided on its upper and lower sides. The "escape" is fitted in an aperture cut in this board, which enables the bees to pass through into the lower chamber, from whence they cannot return.

[924.] *Moving Bees Fifty Yards.*—1. Is the enclosed sample of sugar pure cane? and, if care, will it answer as well as cane sugar in a *lump* form, as I see you advocate lump only in the *Guide-book?* I intend the sugar for making pea-flour candy. 2. A fortnight ago I moved my hives to a spot about fifty yards from where they had previously stood. For the first time since being moved, the bees were out to-day, and a large number were flying about where old stands *had been.* Would these bees go back to their hives again or be lost?—Hartwood, *Chorley, December 16th.*

Reply.—1. Sugar sent is quite suitable for candy-making, and we think that it is pure cane, but it is always well to have the sellers' guarantee as to the quality of sugar. 2. It would have been far better to defer moving the bees until they had been confined to the hives for several weeks by frost. If this is done, the risk is reduced to a minimum. In your case it is only too probable that many of the bees would be lost.

[925.] *Bees Blown over in the Gale.* — On my return home the other evening, it was my misfortune to find one of my hives blown over in a recent gale. The hive fell over so that the entrance lay uppermost. After setting it on its legs I raised the quilts slightly, and found the bees alive, but I fear some of the combs may have got broken down. The weather is too cold to examine, I think. What had I better do?

Reply.—Take the first chance when a warm

day comes to examine whether there is any breakdown to justify your fears. If any combs should be broken down the frames should be removed, and have the combs securely tied in with tapes before being replaced. Should the combs not be bent down to the bottom bar, a light lath supported by a couple of corks must be fixed below to keep them in position.

DAILY INCREASE IN WEIGHT GAINED BY A HIVE IN CALIFORNIA.

On the morning of April 16th I took 16 pounds of honey out of a super of a colony of bees near my rustic seat under the shade of a juniper-tree, and placed a second super on it, as most of the combs in both hive and super were full of brood. I then opened up a daily record of increase in weight, a copy of which is given below:—

Apr.	Increase.	May.	Increase.	June.	Increase.
16	7	11	11	5	7
17	4	12	20	6	7
18	4	13	10	7	7½
19	7	14	12	8	4½
20	8½	15	10	9	4
21	4	16	6	10	6
22	1	17	12	11	5
23	1	18	12	12	3
24	2	19	18	13	4
25	5	20	21½	14	5
26	8	21	12	15	5
27	4	22	13½	16	4
28	0	23	10	17	3
29	5	24	6	18	4
30	4	25	13	19	4
May		26	16	20	2
1	8	27	13	21	2
2	12	28	15	22	1
3	17	29	17	23	2
4	10	30	10	24	2
5	10	31	8	25	3
6	10	June		26	2½
7	12	1	7	27	0
8	0	2	6	28	2
9	0	3	10	29	1
10	12	4	10	30	0

I extracted as follows:—April 16th, 16 pounds; April 30th, 44 pounds; May 9th, 73 pounds; May 16th, 75½ pounds; May 24th, 88 pounds; June 2nd, 91 pounds; June 15th, 86½ pounds; June 30th, 28 pounds. Total, 502 pounds.

The record was not kept properly for a few days in May, as the scales were balanced in the morning, which gave the gross increase without taking into account the decrease in weight from night until the next morning, which varied from ½ to 4½ pounds, which will account for the 50 pounds of increase more than was extracted.

July 1st this colony was found decreasing rapidly in strength, and upon examination the queen had almost ceased laying, and capped queen-cells were found. Further examination showed young queens laying, and September 12th there was found brood in five frames, with abundant stores for winter, one super having been removed July 1st. This colony of bees was selected to place on scales on account of its location, and proved to be the best one in my apiary, as my average was 200 pounds per colony, and I made an increase of 65 colonies from 140.—J. G. Corey, *Thompson, Cal.—From "Gleanings," Am.*

WINTER LOSSES—THEIR REMEDY.

[The following paper, written by Mr. G. R. Pierce, of Iowa, U.S.A., was read at the North American Bee-keepers' Convention held recently at Chicago.]

Success in every branch of industry is conditioned upon right management, which implies an intelligent conception of the fundamental principles relating to that particular industry. There are instances when men enter some occupation totally ignorant at the time of the proper methods that should be used to reach the greatest results with the least expenditure of labour and capital, and yet are fairly successful. Such instances are, however, exceptional, and usually only occur at the beginning of an industry before competition has entered; after this, a tireless and relentless struggle for existence must be looked for, and intelligent, well-directed methods must be adopted, or failure is inevitable.

Bee-keeping may be said to have passed the primitive stage, and is now an industry in which more or less competition will prevail, and success will only attend those who strive to overcome all difficulties, seize every point of vantage, and adopt those methods which have been approved by experience and experiment. Much loose talk is indulged in by some bee-keepers regarding the stability of bee-keeping as an occupation, owing to the product, honey, being used as a luxury. Oranges, bananas, raisins, and other products too numerous to mention, are used by people of northern latitudes as luxuries, and the increase of importation of these articles is greater than the increase of population. There appears no valid reason why the consumption of honey should not conform to the same law.

During the last decade bee-keepers as a class have not been as prosperous as we could wish. The last five seasons have been noted for the scanty flow of nectar; the pecuniary returns have been reduced to a minimum; the bees have consequently been neglected, and in that part of the country called the "Northern States" there are, I think, a fewer number of colonies than there were twenty-five years ago. There are probably a greater number of specialists in bee-keeping than formerly, but among the farming community the number of colonies seems to be decreasing every year.

The fact that great numbers of colonies perish nearly every winter in the northern States has induced some writers to assume that bees are not fitted or intended by Nature to live in latitudes having winters of almost Arctic severity; that their natural home is in the sunny south, where the northern blizzard and the snowbank are unknown. We have localities, without doubt, where the soil is so barren that it will not support a nectar-yielding flora; in such places bees could not thrive, whether the winters are cold or warm. Insects are very much like other animals in this regard; they flourish wherever they can find suitable food in sufficient quantity for their needs. Even within the Arctic zone, where it is popularly supposed "cold desolation reigns supreme," animal life is wonderfully prolific. These are mainly representations of oil and fur-bearing species, but members of the *Articulata* are also present, for we read that Lieut. Peary saw a bumble-bee in northern Greenland, and found the larvæ of insects at the edge of one of the largest glaciers of that abode of snow and ice. Capt. Parry, the famous English navigator, also found six species of insects on Melville Island, a point about 2000 miles due north of the northern boundary of Montana. Russia, a land proverbial for its cold winters, produces large quantities of honey and wax.

When we consider these facts, it seems absurd to suppose that the magnificent tract of country, extending from Maine to the Rockies, is not capable of supporting bees. We have here a country upon which Nature has bestowed with a lavish hand a wealth of fertile soil and luxuriant vegetation which equals the most favoured regions of the globe. In view of the favourable conditions present for the support of animal life, it seems fair to presume that the winter mortality among bees in the northern United States is the result of crude and improper methods of protection, and not of climatic conditions.

The cause of winter losses has been discussed by bee-keepers from almost every conceivable standpoint. Cold, impure air, moisture, pollen, lack of water, bacteria, have, each in turn, been held responsible for the trouble, and yet the bee-fraternity is not at unity in explaining the matter. This is not surprising, for the method of reasoning adopted has been mostly of the pre-Baconian era of philosophy, when causes were assumed, and facts were fitted in as found convenient. This matter works well until we come in contact with a fact that is one of the stubborn kind—one that will not fit, no matter how it is turned or twisted. It will not even do for an exception to a general rule, but is continually intruding at every point, and there is nothing for us to do but to assume another cause, which in turn is overthrown by some other obstreperous phenomenon. The results of such a method of investigation are utterly unreliable, as may be illustrated by the following incident:—

Some years ago, a gentleman, who had lost nearly his entire apiary, wrote an article in which it was urged with considerable zeal that winter losses were caused by the bees gathering and storing the juices of fruits which in turn caused the store of honey to ferment, thus naturally producing disease. This view had been so ably held by the gentleman, that I resolved to test the matter. I therefore extracted all the honey from several hives, and fed the bees with a mixture of honey and cider—nine parts by measure of the former to one of the latter. Now, if these bees had any respect for human logic, they would have promptly died during the winter. But they did not; the facts in the case failed to fit when put to the test. Other experiments in this direction have convinced me that bees can live upon what they gather, store, and seal, if they are properly protected. They will even tolerate stores of so-called honeydew of the most nauseous character, but will show the effect of such a diet in the spring, as they are less active than ordinarily, breed more slowly, or not at all, and rapidly dwindle in numbers unless supplied with pure honey or sugar syrup.

We may infer the cause, and apply the remedy against winter losses by considering the following facts, which experience has furnished or will teach us:—

1st. Bees winter in good condition generally if they have sufficient food, and can take cleansing flights every three or four weeks.

2nd. They do well in very severe winters if the period of greatest cold is experienced in November, December, and January; but if the coldest weather is in January, February, and March, disease is almost sure to be indicated, unless the hives are well protected.

3rd. A severe winter following a season that gave no fall flow of honey is usually fatal to the inhabitants of an unprotected hive.

4th. A normal colony of bees hived in a large box or gum, and allowed to keep all honey gathered, say, to the amount of sixty to eighty pounds, will live and keep healthy, no matter how severe or how prolonged the winter may be. Instances are on record where bees have occupied such hives from ten to fifteen years.

5th. A colony of fair strength as to numbers will endure the severe cold of our winters, no matter how prolonged, until a part or all of the cluster have eaten the honey stored directly above; if the cold continues after this, there is danger ahead.

By considering one or two of these propositions, and ignoring others, one may assume any disturbing element to be the cause of winter losses; but to reach the true cause, all facts and phenomena with which we are acquainted must be carefully considered.

In northern climates all animals subject to man require virtually the same conditions to endure the cold, and these are quietude, a warm abode, and sufficient food of the proper kind to supply the nutritive functions of the body. Bees are no exception to the rule, though they are physically different from the vertebrates.

They gather the food suited to their organism, and, when left to themselves, will store it in such a position as to be available at all times.

They are enabled to enjoy a reasonable degree of warmth by their mode of living at the ceiling of their dwelling instead of on the floor, thus enjoying an atmosphere made temperate by the heat evolved from the clustered colony.

In order to meet the requirements of healthy bee-life in out-door wintering, I would briefly suggest the following:—

1st. A sufficient quantity of honey to meet the needs of the colony until the bloom of the following spring.

This honey store should be so distributed that the combs upon which the bees are clustered will contain enough honey to feed the colony during cold weather, reserving the side stores for breeding in the spring. Never put empty comb in the centre of the hive after the honey season has closed.

2nd. The cover of the hive should be a solid board, sealed tight by the bees, and this covered to the depth of ten or twelve inches with some heat-retaining substance, in order that the top of the hive may be kept warm; protection to the other parts of the hive is also absolutely necessary, at least in the north-western States.

I have followed the discussion in *Gleanings* concerning sealed covers with considerable interest, and am not surprised that success has not attended some of those who have tried them. The reason is quite plain to my mind. Too much emphasis has been placed upon one part of the method, that is, the sealed cover, ignoring to a great degree the deep covering above—a most essential adjunct. In some regions, as central Ohio, Indiana, Pennsylvania, &c., the depth of covering indicated may not be necessary, but in colder climates the sealed cover will be a failure without it.

Space does not permit of my explaining in full all the details of my method of wintering. In my work, *The Winter Problem in Bee-keeping*, I have stated these at length. Nor do I consider it necessary that all bee-keepers should winter their bees according to certain stated plans, but every one should understand what conditions are needed, and then provide for these in any manner convenient to his or her situation and surroundings.

Since publishing *The Winter Problem* I have found by testing that an empty space below the hive is a valuable adjunct in wintering out of doors, not to let the foul air settle to the bottom, as was at first claimed, but for the following reasons:—

1st. It is an absolute safeguard against the hive entrance becoming choked when covered with snow.

2nd. The bottom of the hive is in winter the coldest part. This space lifts the cluster above the cold boards.

3rd. Bees are not as apt to fly out on cold, sunny days if the lower edge of the comb is three or more inches from the bottom board. The strength of the colony is thus conserved, and early breeding is encouraged.

In conclusion, let me say that winter losses are not caused by poor honey, by fruit-juice, by pollen-consumption, or by bacteria. It is simply a case of *protection* and *food;* this supplied, and bees can be wintered in the north as safely as in the "land of the cotton and the cane."

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. DEAN.—*White Foundation for Supers.*—Very white foundation, such as that sent, especially when the "tallowy" smell accompanies it, is not liked by bees, and they sometimes refuse to work it out into comb. The best sort for use is the pale yellow, soft in texture, and having the honey fragrance which makes it so attractive to the bees.

THE

HONEY BEE:

Its Natural History, Anatomy, and Physiology.

BY

T. W. COWAN, F.G.S., &c.

Editor of the "British Bee Journal."

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Editorial, Notices, &c.

SEASONABLE.

COMPLETION OF OUR TWENTY-FIRST VOLUME.

The present issue of the *British Bee Journal* completes its twenty-first yearly volume. In other words, we have to-day attained our majority, and after twenty-one years of labour it is for readers to say if the work done in that time has been fruitful for good or for evil, so far as concerns the pursuit with which our mission is and has been so altogether identified. We may, however, with some degree of pardonable pride, be allowed to point out that so far as the main object towards which all our teaching has tended, viz., securing an increased output of honey, it has been successful to an extent that few will deny.

The one urgent need of to-day is to secure a ready and fairly remunerative market for every pound of British or home-grown honey which can be produced in these islands. This is one of the most important problems connected with bee-keeping, towards the solving of which our efforts in the near future must be directed. But we believe its solution is not only possible, but that the question is rapidly becoming ripe for settlement. Owing, however, to our abnormally limited space this week, caused by the inevitable Index, we must defer further allusion to the matter till a more favourable time, beyond again reminding bee-keepers that the recent publicity given to the subject of bee-keeping and the production of British honey should not be allowed to die out before taking full advantage of what has been done. The communication which appeared in our issue of last week (1676, p. 506) conveys a useful argument showing the need for something to be done, and it remains for bee-keepers to assist us in doing it when the proper time comes.

Having said this much, it may also be safe to infer that the season's festivities will be more attractive to readers than discussing dry details of schemes for honey-selling, however interesting such schemes may be to honey-sellers. We therefore turn to the more congenial task of conveying to all who have helped to make the *Bee Journal* readable and, we trust, instructive during the past year, our sincere and hearty acknowledgments of the generous help they have rendered, and expressing the best of good wishes for the health and happiness of contributors and readers alike.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

HIVE ROOFS.

[1683.] Instead of being Christians, let us suppose for a few minutes that we—each one of us—is a bee, scientifically labouring under the name of *Apis mellifica*. The specific name is a pleasing one; it suggests honey and brings to mind the mellifluous odour of a charlock field, or a lime with a thousand thousand blossoms. If the atmosphere is quite favourable nothing

secretes honey with so lavish a hand as the lime. Once in a while it almost spots from the flowers—that would be real honey-dew!—and the bees return to the hives not only with a bursting honey-bag, but sticky all over as though they had rolled in it. When the limes are in bloom, entomologists know full well that it is no use "sugaring" at night, for here is a banquet not to be compared to a mess of rum, beer, and treacle. Imagine yourself a bee, then, headforemost in a dark cell trying to get warm. You cannot clap your arms round your shoulders like a cabman because you have no arms to clap, only legs to kick backwards. You are ordered to take your turn on the outside of the cluster, to sit on the other bees to hatch a little warmth as it were. Perhaps you have been commissioned (it is the fashion lately) to fetch a little honey—clover honey, it is for the queen—from the cold slab of comb above, or, what is worse, go right round the end of the frame, there being no "winter passages," to convey a message to the next seam of bees. On this journey you make discoveries. The edge of the comb is covered with a blue mould, the hive side is wet, among the damp *débris* on the floor is a damp, naked worm! It is Christmas-time. Mistletoe, holly with coral berries, ivy whose berries are not yet ripe, darkest yew, encircle, not the heads of the artists, but the pictures which they have painted. There is the brightest of fires on the hearth, round it the brightest of faces, for a thousand thousand stockings will be suspended to-night ready to be filled by Santa Claus. But the bees in the damp, mouldy hive are dying one by one, till there is a noisome heap, and only a few remain clustered round the queen this merry Christmas Day!

We will mercifully suppose that the above is an overdrawn picture; we will hope that every hive to-night is plentifully supplied with sweet food, that a sweet odour of honey—no, not honey, but naphthaline—pervades it; the bees covered with quilt, pad, and sack, which my late friend "Pettigrew" so heartily detested, and that winter passages have been cut, and a coat of paint to the roof, at least, given. We will suppose, too, that he smiles when the storm without dashes the rain in great sheets against the panes, as if it were angry at being kept out against its will, because he knows the hives are taut and sound and standing on four splayed legs. Thus did I smile, many long years ago, to my cost, for I found that not one of my roofs were watertight except those covered with zinc. Many of them were by the best makers, and included all the shapes that I have ever seen, barring the Anglo-Cyprian; also several covered with stout calico and painted. But they were, one and all, unsound. Water will get in through the most minute of cracks—through the puttied hole which covers a nail-head frequently—and often by capillary attraction runs upwards where one would least expect it. However enthusiastic we may be, there is bound to come a time when other things besides bees—wasps, perhaps!—engage our attention. One of you will be getting married; another will have bought a yoke of oxen; a third is selling his honey, pleased, not so much at his own gain thereby, but at the treat his customers will have from the eating of it. Yes, the day will come, my young friends, hard as it is to believe, when you will not care if you do not see the *Journal* for a month, or maybe six months, and yet your hives will be in the garden letting water in just the same as ever!

Wood *will* warp, and paint *will* blister, so let me urge you strongly to use nothing but tin or zinc, well painted both sides, and four inches wider and longer than the hive, to shed the rain well off. Then it will not matter much if your enthusiasm does wane—nay, it may be a blessing for the bees, because there would be a rest from that unceasing, worrying manipulation I read so much about, and, alas! used to practise so much myself in days gone by. Never so cruel though—even in those days—as to put naphthaline under the frames; never so unjust to the bees either as to have two laying queens in one hive. Nothing has surprised me more than this "Wells system." Perhaps my bees are abnormal bees—perhaps they still have some Cyprian blood in their veins, for I had a queen once. Anyhow I never wish to have the management of stronger hives. I have seen in Pettigrew's garden at Bowden, in Cheshire, and also in a garden at Knutsford, eighteen-inch skeps, with a huge glass super over, bursting with bees—stronger, my friends, than any of yours worked on any other system. And did I not hive a swarm from one of these, which completely filled one of these huge skeps? (A delightful memory!)

My hive of the future will be one with a tin or zinc roof, that will stand ten or twenty years; it will have frames parallel with the entrance, one "dummy" behind. The said frames must have a thicker—not wider—top bar than the present Association standard, and "metal ends" will be discarded. As bottled (extracted if you will) honey will be the order of the day, although some comb honey will always be produced, the hive must be made to take tiers of frames, each one containing ready-built drone comb, faultlessly worked out from foundation for preference. The queen will be kept from these by an excluder.

The bee—the wondrous insect which solely occupies the pages of a weekly journal through many years—will not be of the proud Ligurian race, neither will it be the bright Cyprian or Syrian, or the soft-banded Carniolan, nor yet the patent Punic; but it will be the vigorous offspring of the old English bee with the blood of many a race in its veins. For it on breezy downs the pasque-flower will hang a shaggy bell, for it the heather will burn, as it were, the mountain tops, the eye-bright show a pleasant face, the bramble hold out a welcome hand; for it the wild thyme will creep about, some on the mounds in the kirkyard (for so I have seen it). Some may yet blossom on yours and mine.—LORDSWOOD.

LECTURERS *VERSUS* TEACHERS.

[1684.] Without doubt there are lecturers of high technical attainments who are quite capable of displaying their scholastic ability before students in science and art subjects—students who have mastered the elementary stages and passed into more advanced positions. But the question which prompts itself to me as I read "B. B.'s" letter (1671, p. 500) is, Will the County Councils—*vide* the Editorial note—consider they are faithfully performing the duties devolving upon them, if they do not reach the uneducated masses through their appointed agents? *They* well know that the educated classes can take care of themselves. The County Council *must* take care of the uneducated. It is amongst the latter that ignorance and prejudice foster and grow. It is the uneducated that require a teacher with language adapted to their requirements and intellect. Technical words must be avoided, and, where necessity arises for their use, they must be explained. Language such as "John Ploughman" uses ought to be the standard of competence. He says language that cannot be grasped by those that hear it is "bad language." And, again, with St. Paul, such lecturers are "barbarian" to their hearers. The words indicated by "B. B." cannot possibly advance elementary bee-keeping. Plain, homely language will be appreciated by all, but technical words and high-sounding phrases are neither appropriate nor beneficial.

Inaccuracies produce a revulsion in finely educated minds; but, whilst such as "Bee" (1615, p. 439) retain impressions of the error, the remainder present would most probably never give the matter further consideration.

We have not, up to the present, had any explanation from the lecturer, although H. Hill (1629, p. 457) asks for further details, which he doubtless would have obtained had those making the charge given the required particulars. I think they ought to do so. Our ears deceive us as well as our tongues. I do not hold that he did not say so; but if he were called upon for an explanation we should be satisfied, and doubtless it would cause others not to go beyond their own knowledge.

In conclusion, Messrs. Editors, I am of opinion that the sooner County Councils bribe an intelligent bee-keeper in specified districts to teach bee-keeping to the community, the sooner will those thousands of pounds sent abroad annually for foreign honey be retained in this country. I set this before you as a new idea which will soon take the field. There are plenty of intelligent bee-keepers, and when once the country people know that there is a paid apiarian in their district who will teach, advise, and assist them in their difficulties, numbers will avail themselves of the privilege.

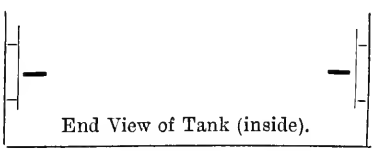
Let us remember all men are not scientifically educated, neither are all men illiterate; but all are liable to error. Charity is a good thing, so is honey; use them both discreetly.—NOT A HEATHEN, *December 18th.*

[We quite agree with our correspondent that lecturers using technical terms should in all cases explain them; but where technical instructon is being given it is impossible to avoid using such terms at times. It may also be well to state, as a fact within our own knowledge, that the Committee of the B.B.K.A., when testing the efficiency of lecturers of whose competency their opinion has been asked, lay stress on the need for candidates being able to adapt their lectures to the ordinary capacity of cottagers and rural labourers.—EDS.]

HOW MR. WELLS EXTRACTS HIS BEESWAX.

[1685.] I see in *B. B. J.* for December 14th (1664, p. 497) our friend Mr. Woodley would like me to say how I manage with my wax. I really did not expect that I was any way in advance of Mr. Woodley in that respect, and most likely I am not, but, as he has asked the question, it affords me great pleasure to answer the same.

In the first place, perhaps you will allow me to explain the construction of my wax-extractor. It is a kind of tank made from stout tinned sheet iron, about nineteen gauge. It is 27 inches long, 17¼ inches wide, and 15 inches deep (inside measure). It has a ⅝ inch brass tap in the centre of one of the long sides about 1 inch from the bottom, and 9 inches from the bottom inside there is a T-shaped piece of sheet iron (made of the same material as the tank itself) riveted all round the tank, the flat side of the T being riveted to the tank thus:—



End View of Tank (inside).

When I have old combs to melt down, the frames containing them are placed on the bottom of the tank and under the T piece; then a wood frame, just the size of the inside of tank, covered with cheesecloth, is laid on top of the T band, and is fastened down with four buttons fixed on the under side of wood frame, which are turned from the top side so as to grip under the T-shape band. The tank is then placed on the top of kitchener, and water poured in until it comes about three inches above the strainer or cheesecloth. As the water gets hot the wax leaves the frames of comb and rises up through the cheesecloth to the surface of the water, from whence it can be skimmed off, or it can remain to cool, and all the refuse, with the now empty frames, is left in the bottom of tank. The frames are now thoroughly cleansed, and are fit for further use as new ones, but in some cases the wire in the frames becomes slack, and requires tightening before fixing fresh foundation. It may be said that the frames are not worth all this trouble

but mine being well made are worth five times the amount of trouble. In uncapping combs when extracting honey we always let the capping fall into the top of the honey-ripener, and the little honey cut off along with the cappings runs through the strainer. The dry cappings are then thrown into the wax-extractor until it gets full. A small quantity of water is then added to wash all the honey out of the cappings, and some mead is made from this. The tank with the cappings has the strainer fixed, placed on the kitchener, and the wax is dealt with just the same as the old combs are done, only, of course, there are no frames in this instance, and this is the brightest wax. The tap in the tank is for drawing off the water, as it is too heavy to lift about with the water in it. As regards wax-moth, I never fear that. When a number of old combs are condemned they are placed in a box, with plenty of naphthaline in the box with the combs, and I never find any of them touched with moth, although I never extract wax until everything else is done.—G. Wells, *Aylesford, Kent, December* 21*st*, 1893.

"LECTURERS' ERRORS."

[1686.] I have waited, in the hope that some more able pen than mine would take this matter up, and say a few words in defence of the lecturer referred to. However, I suppose it is either because the whole thing was considered too trifling, or the dislike to fighting unknown foes, that has caused such reticence.

It seems to me that whilst "Bee, Derby," and "Another Bee" are hidden behind a *nom de plume*, the former has acted the part of a wasp rather than a "Bee," for, not content with saying, "A few days ago I attended a lecture," and referring to the lecturer as "a second-class expert" (and he doubtless knows that only two second-class experts have given lectures in Derbyshire), he fairly clenches the nail when he adds "Derby" to his *nom de plume;* whilst "Another Bee" is evidently very anxious to cast a stone when he makes the bold assertion that "it was the lecturer who was in error," and then very mildly adds, "for I believe I was at the lecture referred to." Rather logical this, eh?

Now, whether "Bee, Derby," is a friend of Associations or not, I maintain he has, in the eyes of many, stigmatised the whole of the Derbyshire lecturers, and has, in my humble opinion, caused ridicule to be vented on a man such as any Association might be proud of.

I have attended not a few C. C. lectures on different subjects, in various counties, and I am bold to admit that at the lecture in question (there is no doubt as to what lecture is referred to, thanks to "Bee, Derby's," "stab in the back") there was much more to be learnt, by those who went for that purpose, than at *half a dozen* of some such as I have heard. Moreover, the lecturer *did not* make the errors he is debited with (but more on this score at some future time if needs be), and I will only add that the arrangements, or, rather, the want of arrangements, and the delay of half an hour waiting and hunting for a chairman, along with other drawbacks, should, I think, have elicited every sympathy for the lecturer.—Another Who was There, *Derby, December* 18*th*.

NORTHUMBERLAND AND DURHAM BEE-KEEPERS' ASSOCIATION.

At a meeting of the Committee of this Association, held the other day, a letter was read from Mr. G. Wells, Kent, explaining why he was unable to come to the district to deliver addresses on his double-queen system as arranged, and the explanation was considered to be satisfactory. It was decided to arrange for Mr. Wells to come down in the early part of February; and if he should find it impossible to renew the engagement, the Committee will endeavour to arrange a course of lectures by a well-known expert, who is familiar with Mr. Wells' system.

Queries and Replies.

[926.] *Transferring Combs — Re-queening Hives — Experts.* — Will you kindly give me your advice on the following queries? I have three hives, with combs (not standard size), which I wish to transfer to new standard-frame hives. 1. How soon next year would you advise me to do this by fixing the combs in the frames and securing them with tapes? 2. How long should the tapes remain on the frames? 3. I have five hives, which I guess have all old queens. I should like to re-queen them all; and, as I cannot afford to buy young queens, I propose to work the following plan, and ask: Would there be any doubt about the young queens getting fertilised?—Select my best stock, and contract the hive, and make them build queen-cells and prepare for swarming. When I have queen-cells sealed over, remove all old queens, and fix one of the cells in the centre of the brood nest, and let the young queens introduce themselves. 4. Are experts' examinations held at county shows, and what are the rules they have to pass? 5. Is the trade of expert a good one?—Ignorant.

Reply.—1. We should advise making the transfer as early in spring as the weather is sufficiently warm for pollen-gathering. The smaller the amount of brood at the time of transferring the better. 2. Examine a frame in three days after tying the combs, and it will readily be seen if the bees have made the combs secure; if not, leave three days longer. In honey-gathering weather, the combs are usually made fast in from twenty-four to forty-eight hours. 3. In carrying out the proposed plan, an interval of four or five days should elapse between removal of the queens and the introduction of sealed queen-cells from the queen-raising colony, so that cells may be

started in each hive before pinning in those from the queen-raising stock. 4. Examinations for third-class certificates are generally held at shows, though not always. 5. Write to the Secretary of the B.B.K.A., Mr. J. Huckle, Kings Langley, Herts, who will furnish particulars. 6. That is a question we can hardly answer, except to say that the trade of expert —to have any chance of being made remunerative as a trade—should be combined with that of appliance-making.

PREPARING FOR NEXT SEASON.

Old Foundation as Good as New.

By the time this number of *Gleanings* will have reached its readers, the bees will all have been housed for winter, or should be, at least, and the intelligent apiarist will be asking himself the question, "What next?" The next thing to be done, it seems to me, is to prepare for next season. He who fails to prepare now for the season to come, often finds the season upon him and he unprepared. The time to prepare is always when we have the *time* to prepare, not afterward. Therefore, when our bees are safely fixed for winter we should go to work in such a way that our "dish" will be sure to be right side up when the "raining of honey" comes next June and July. To this end, all the hives not occupied by the bees should be brought around and repaired if necessary, cleaned of propolis, &c., and painted if necessary. If we do not have as many as we may reasonably expect to use, new ones should be made, so that all will be in readiness at a moment's notice when swarming-time arrives in 1894. If we are to use foundation or starters of foundation in our frames, let this foundation be procured and fastened in the frames during the winter while we have leisure. Don't listen to those who tell you that the bees will not work the foundation only as it is new from the mill; for in an experience of years I cannot see any difference between foundation fresh from the mill and that which has been stored away in the frames for years, as regards the bees accepting it. To be sure, to me this old foundation looks cold and hard; and, while looking at it these cold winter days, my sympathies go out towards those who say the bees will not accept it; but when next June arrives, and I lift out this same "hard" sheet from the bees, after it has been in the hive an hour, I find it all soft and pliable, and just as good as new, or that which has been dipped in tepid water so as to restore its colour, &c., as some advise.

Having the hives all in readiness, put them away where they will be handy when needed, and look after the surplus arrangements next. These should be cleaned of propolis, and repaired where necessary; and if we do not have enough, let new ones be made. To arrive at the number we wish, I have come to the conclusion that I am not sure to secure the best results unless I allow at least room for 150 lbs. capacity to each old colony in the spring, where working for comb honey, or 250 where working for extracted honey. Less than this finds me "napping," about one year in eight, with less money to jingle in my pockets than I might have had. The sections to fill our wide frames or cases should next be procured, made, and filled with full sheets of foundation or starters, as we have elected to do. When filled as above they are to be placed in their holders, and all fixed in readiness to use, so packed that all dust, dirt, and mice are excluded from them.

We now have time to study on any experiments we have thought we should like to make when we were so busy during the last season; and by studying the matter over we shall see what material and fixtures we shall need to carry out these experiments. Much good to the bee-keeping fraternity is often lost by lack of time to experiment just when the "fit is on," and then allowing the thing to die without further thought in the matter. To overcome this tendency I jot down the new things I should like to try when they come to me; and if I do not have time to put them in practice then, I look this "jotting down" over during the winter, and prepare to carry out the plans the next season. If, after carrying out, we find these experiments successful, we should then give them to the world to pay the debt we owe to those who have come before us and prepared the way for our successful practice of the plans they originated. Don't be selfish, and try to keep whatever good you may have found to yourself; for in giving to the world there comes the greatest reward. Above all else in importance is a thorough knowledge of apiculture, and the long winter evenings which are upon us are just the time to gain this knowledge. Get around the back volumes of *Gleanings*, and other bee-papers, if you have them; also any bee-books you may have, and thoroughly read them till what they contain is fully impressed upon the mind, so as to put what you learn in practice the next season, so as to be always advancing, instead of standing still or retrograding. Do this instead of spending your evenings at the store, saloon, or hotel, listening to the idle gossip, or worse than gossip, and, my word for it, you will make a success of bee-keeping which will astonish those about you.

Not long ago, while passing the saloon in our place I saw through the open door one of our would-be bee-keepers standing at the bar, apparently about to treat others gathered around to that which has the power of not only wrecking any business, but destroying both soul and body. No wonder such a one does not succeed. If you are not interested to an extent sufficient to make you prefer the study of bees to the places named above, I can give no assurance of success; but, on the contrary, I shall be obliged to predict only failure, as all my knowledge of the pursuit compels me to to say that the idea that "bees work for nothing and board themselves" is a mistaken one.—G. M. Doolittle, *in "Gleanings," Am.*

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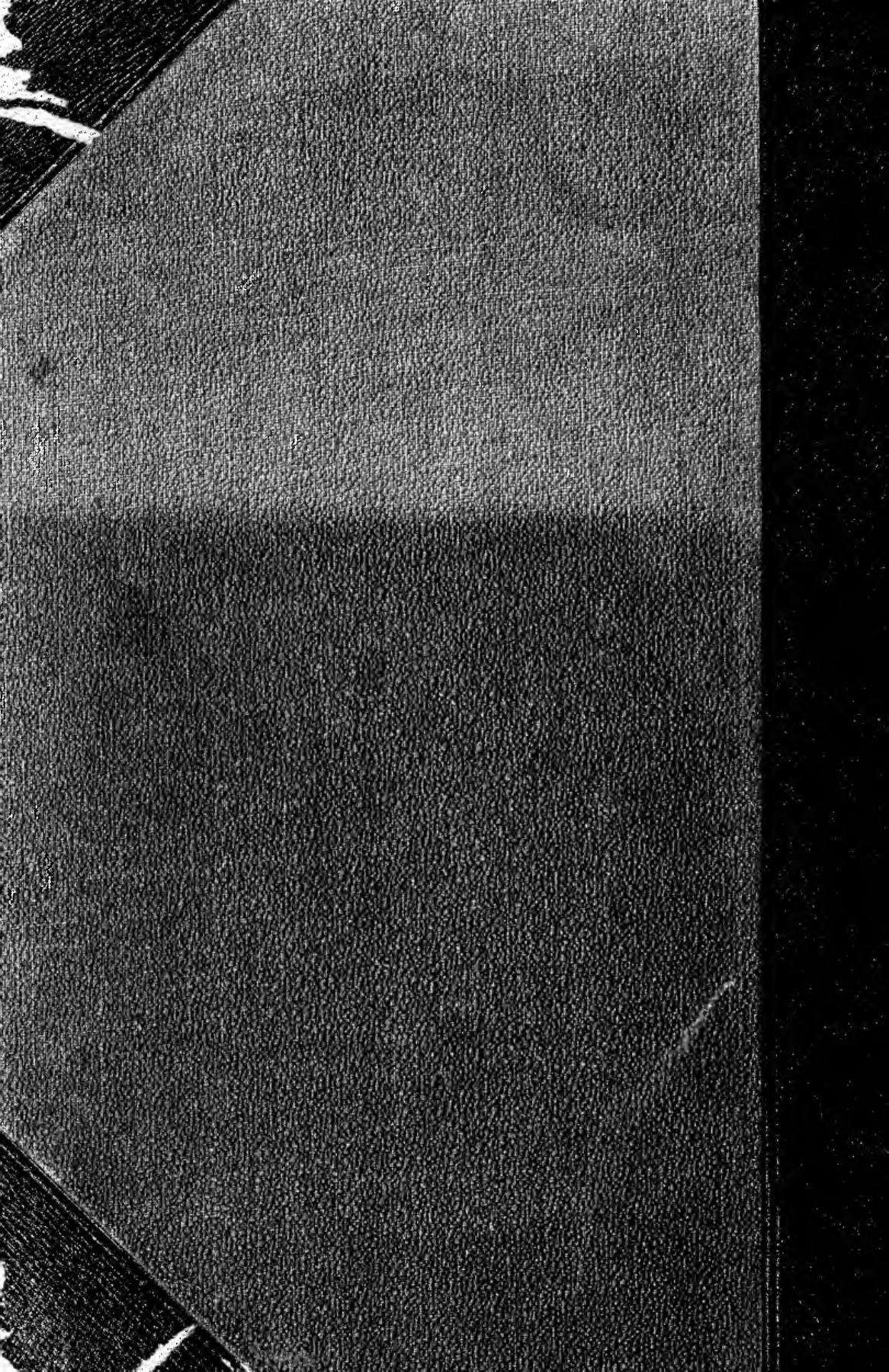
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